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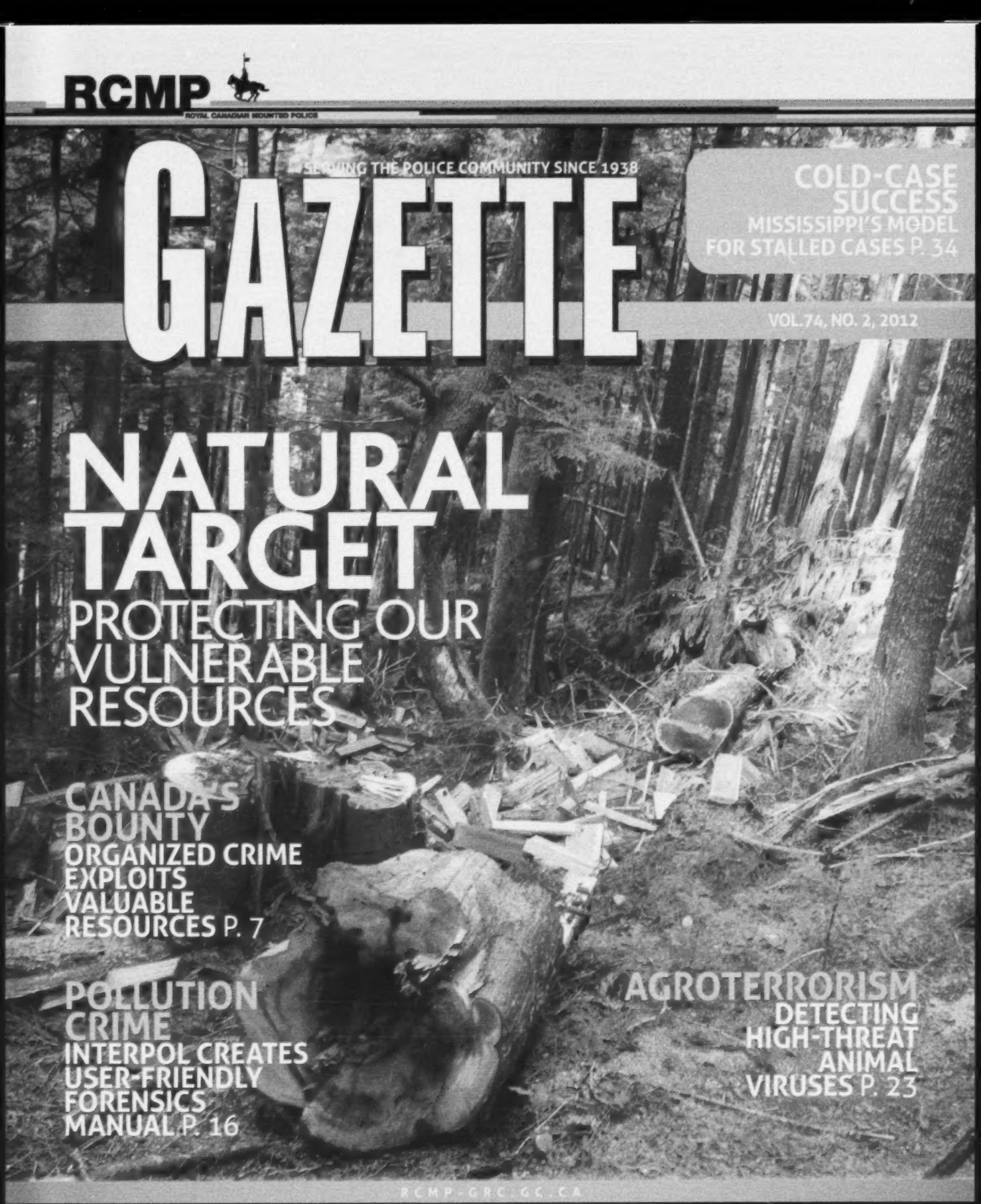

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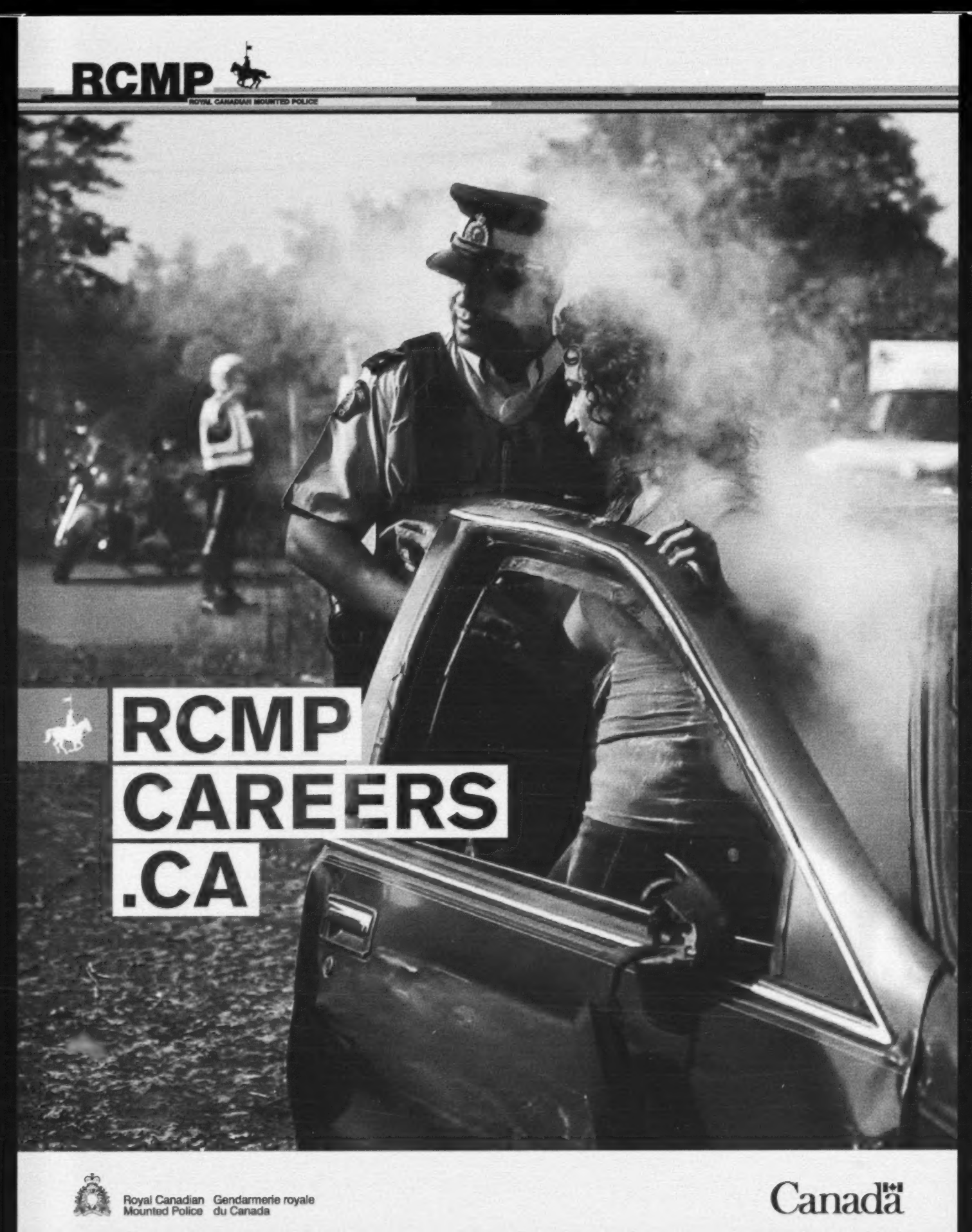

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GAZETTE
Serving the police community since 1938
Vol. 74, No. 2, 2012
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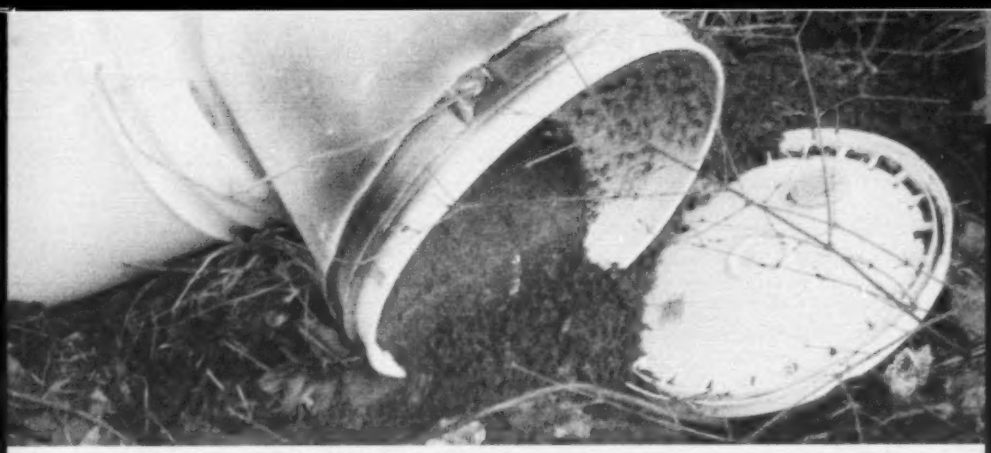

PROTECTING OUR PRECIOUS RESOURCES

As Canadians, we're sometimes guilty of taking our natural resources for granted — mostly in assuming that our clean water, forests and fisheries, agricultural soil, pristine nature, even precious commodities such as oil and diamonds will last forever, or remain safe from harm.

But while the long-term protection of these resources may not always be top of mind, or even the highest priority, police and their law enforcement partners have a first-hand perspective on their vulnerability.

As you'll read in this issue, protecting resources can be full-time work, whether it's RCMP-led or another agency's prime responsibility. *Gazette* writer Sigrid Forberg delves into the very real threat posed by organized crime against several of our important resources, and what can be, and is being, accomplished to cultivate stronger partnerships for their protection.

Some of the articles in our cover section explore various policing approaches to ensuring our forests, crops, livestock, waterways and even wildlife are not exploited, polluted or poached.

The risk of terrorism extends to our resources. Should a high-threat virus be intentionally released into the wild or planted directly into the country's livestock or crops, the results could be catastrophic, and police will be called in to respond. As our policing counterparts in the United States outline for us, preparedness for law enforcement is crucial.

And while the risks can be mitigated with proper planning and prevention, technical advances such as the rapid diagnostic tests being developed by scientists at the Centre for Security Science are also critical.

Unfortunately, not every country has the expertise and resources to investigate pollution and environmental crimes affecting our water and land.

To address this reality, Interpol's Environmental Crime Programme is creating a basic, user-friendly manual to help police in countries with emerging economies collect evidence and investigate environmental crimes with minimal equipment and support. As one police officer notes, "What can I do to make a better case, when my only tools are a notebook and a cellphone?"

There are other international approaches to combatting environmental crimes and protecting natural resources. The Metropolitan Police in the United Kingdom has created a dedicated wildlife crime unit to tackle the illegal trade in endangered species from the United Kingdom and abroad.

And partnering with organizations like the World Society for the Protection of Animals brings added money and expertise, something every police unit can use.

We also learn some of the cutting-edge forensic techniques being developed at the only full-service crime lab devoted to wildlife crimes in the world located in Oregon. As the lab's director Ken Goddard explains, the science has come a long way and the advances allow investigators to present highly credible evidence in the courts of law.

Outside our cover section, you can read about a Carleton University study that explores what factors affect police professionalism, learn more about a cost-effective and successful approach to solving cold cases in Mississippi, and find out how police in Canada are using autism registries to great advantage. After all, earning the public's trust, solving crimes and saving lives are three worthy goals for any police agency.

— Katherine Aldred

GAZETTE

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GIVING BACK THE TITLE

When Statistics Canada named Abbotsford, British Columbia as the homicide capital of Canada in 2008 and 2009, the Abbotsford Police Department took it as a challenge.

Although the parameters of the statistics made the results slightly misleading, the reality was, in 2009, the city had 11 homicides, eight of which could be attributed to gangs and drugs.

So instead of going on the defensive, police decided to go with it. They launched an anti-gang campaign including a gang suppression unit, a helpline and presentations across the city.

"We said from the start, we've got a problem and we don't care who knows it. In fact, the more people acknowledge it, the more support we'll get," says Cst. Ian MacDonald, of the Abbotsford Police Department. "And we did garner a fair amount of recognition."

Then-mayor George Peary got on board and along with Chief Bob Rich issued a warning to youth about the dangers of getting involved with gangs. Simultaneously, police announced a helpline intended for gang-involved youth, their friends and family to seek advice or help.

The gang suppression unit focused on identifying gangsters who either lived or worked in the area. In the first year, the unit identified 180 names. Of that number, they made a top 10 list of Abbotsford's most wanted, which has since expanded to 25.

And they didn't stop there. They took the anti-gang message to the schools and then to community centres, giving a multimedia presentation to 25,000 residents over a period two years.

"We didn't want a cop standing at the front of an auditorium telling people what they're doing wrong," says MacDonald. "We just tried to encourage making good decisions and the fact that we trusted they would choose the right thing."

MacDonald says both the enforcement and prevention have worked well together. In just two years, Abbotsford has gone from the crime capital of the country to homicide-free in 2011. And they're far from finished.

"We really just want to make it miserable to be a gangster in Abbotsford," says MacDonald. "I think we chose the right path and I'm pretty confident the community does too."

—Sigrid Forberg

HAVING A BLAST TOGETHER

Ottawa's two explosive disposal units have integrated their teams, now sharing resources to protect the nation's capital.

In December 2011, four Ottawa Police Service (OPS) bomb disposal technicians joined the RCMP Chemical, Biological, Radiological, Nuclear and Explosives (CBRNE) Operations section at the RCMP facility, as part of a two-year pilot project.

Every Canadian bomb technician receives the same training from the Canadian Police College, so Insp. Scott Sheppard, the officer in charge of CBRNE operations, says the integration hasn't impacted service in the Ottawa region.

"I can't say that we do twice the amount of work for half the cost, but there are definitely savings in terms of shifts, equipment and capacity," says Sheppard. "We won't have to worry about falling short or not having members available to do the work."

Sgt. Milton Capaday, an OPS bomb tech now part of the joint team, says both organizations brought equal value to the partnership.

"The RCMP has increased resources for training and research and the Ottawa Police Service has an equally busy response program," says Capaday. "We decided to take the best of both worlds, meld them together and maximize training and operational opportunities."

CBRNE Operations

Four Ottawa Police Service bomb disposal technicians have joined the RCMP CBRNE Operations section at the RCMP facility, as part of a two-year pilot project.

They are striving to send out one RCMP and one OPS member for each operational call, regardless of whose jurisdiction the call falls within.

And it's already starting to pay off. Sheppard says they were able to add an evening shift, meaning that they won't have to call in off-duty members except in major cases.

Sheppard emphasizes that it's a fair agreement. The pilot, which is set under a Memorandum of Understanding, is just a formalization of the close relationship the two organizations have long shared.

At the end of the day, the OPS and the RCMP have the same goal, and while there will be some kinks to work out, so far the benefits have outweighed the negatives.

"We've basically doubled the amount of equipment and increased our actual operational response members by about a third," says Sheppard.

"It's win-win for both sides and the amalgamation is so seamless our clients shouldn't even notice a difference."

—Sigrid Forberg

INTELLIGENCE SHARING FOR INTERNATIONAL SAFETY

As of this spring, for the first time, Canada will house the headquarters of an integrated border enforcement team.

The RCMP will join forces with the Canada Border Services Agency, U.S. Border Patrol, U.S. Immigration and Customs Enforcement's (ICE) Homeland Security Investigations as well as the U.S. Customs and Border Protection (CBP) Office of Field Operations, and will be based out of Altona, Manitoba.

Integrated Border Enforcement Teams (IBET) were introduced in 2002 following the 9/11 terrorist attacks as a joint Canadian–American response to a greater need for security along the shared border.

The previous 12 IBETs were typically housed in ports of entry, however, the Red River IBET building will be the first on Canadian soil — 17 kilometres into Manitoba. Working out of the same building will cement the previous informal intelligence-sharing partnerships between the two countries and their various enforcement agencies.

"It will enhance the partnerships to a certain degree just because we'll have a lot more face time with our partner members," says S/Sgt. Kelly Glaspey, unit commander of the Red River IBET. "And ultimately, we have the same goal — to make sure our countries are safe and to catch the bad guys."

Michael Mach, the resident agent in charge for Homeland Security Investigations in Grand Forks, North Dakota, says working out of the same office will make border security easier because the resources will be right there, across the desk from you rather than several provinces or states away.

He adds the Red River area also differs from the other IBET area in one important aspect — size.

"The Red River IBET geographic coverage area is huge," says Mach. "For such a large area, having all the resources in one room will make it much easier to manage."

Although all agencies have been informally working together since the early 2000s, the Red River IBET is expected to enhance the close relationship between the Canadian and American agencies working at securing the northern border.

— Sigrid Forberg

WOMEN IN THE FIELD

In 2009, when Cst. Wanda Marion left her international peace operations mission in Sudan, for two years her only mission was to go back.

Marion, with five and a half years under her belt, had undertaken a task few women in policing choose — a nine-month assignment in a country facing serious political upheaval.

When the people of South Sudan voted to secede from Sudan in early 2011, the new country needed guidance organizing and running the South Sudan Police Service (SSPS). And in early 2012, Marion got the opportunity to return for her second mission.

"Just before I left Sudan we were really getting things done," says Marion. "It was always my goal to go back — I felt like I had unfinished business. And I strongly believe that women are needed in the mission."

Marion says both the United Nations Police (UNPOL) and the SSPS feel the same way. This mission in particular, UNPOL has endeavoured to increase gender balance to at least 30 per cent. And the South Sudanese politicians have also committed to increasing their numbers of female officers in the SSPS to 25 per cent.

Working directly with foreign police officers, female officers can offer different perspectives and approaches that can be valuable, especially in cases that involve vulnerable persons like women, children and the elderly.

Stationed in Juba, South Sudan, Marion is now working on curriculum development and training SSPS officers.

Many of the issues she says the SSPS now face deal with the victimization of women and children.

Marion says having women on-hand training or mentoring has shown to result in more successful outcomes in investigating these kinds of cases.

She says she hopes more women will also put their names forward for international missions.

"I'd like to see more females in the field. I really think we have a lot to add," says Marion. "It's a huge challenge to go away for a year, but the types of calls would really benefit from having a female present."

— Sigrid Forberg

Officers of the South Sudan Police Service train at the UNPOL Rajaf Training Centre in South Sudan.

S/Sgt. Walter Boogaard

GREEN GREED

ORGANIZED CRIME'S EXPLOITATION OF NATURAL RESOURCES

By Sigrid Forberg

It's a common police expression and it rings true. Wherever you can make a profit, you're sure to find organized crime.

And one of Canada's most profitable assets is its natural resources. Whether in the energy or oil sector, the diamond and fisheries industries or the natural environment, the RCMP works with its private and public partners to protect the country's economic and environmental future.

SHARING FOR SUCCESS

Protecting Canada's natural resources falls neatly in line with each of the RCMP's strategic priorities: economic integrity, youth, aboriginal communities, serious and organized crime and national security.

Since 9/11, the RCMP's national security sector has made protecting Canada's natural resources a priority. And in 2010, Public Safety Canada announced a strategy to protect 10 critical infrastructures.

Among those on the list was the energy sector. Canada is rich with resources, especially oil. If terrorists or radical groups were to target these infrastructures, the effects could seriously cripple all of North America, which is exemplified perfectly by the east coast blackout in 2003.

So it's crucial that the RCMP work alongside private stakeholders to ensure the integrity of the industry. In 2006, they introduced the Suspicious Incident Reporting (SIR) system, which provides an interactive national framework for private sector individuals to report suspicious incidents.

A/Comm. Gilles Michaud, of the national security criminal investigations program, says it's been an invaluable resource of information for the RCMP as well as being extremely helpful for the private companies involved.

When an incident occurs, companies can report it through the web-based form that is submitted immediately to the national security database as well as the police of local jurisdiction. They recommend reporting anything and everything because even the most seemingly innocuous details can prove important.

Companies are also provided with personal reports on threats as well as summaries of all the reported incidents in the industry.

Mike Chernichen, who is responsible for corporate security with Canadian National Resources Limited, says the system

has aligned well with his company's security approach. And he adds it's been helpful information for the company to conduct resource planning.

"With these reports, I can get management to allocate the necessary resources for additional security and investigative measures," says Chernichen. "And I share all my intelligence because I want the RCMP and the sheriffs to see what we see so that they are able to allocate their resources appropriately."

The system has certainly proved its worth. Michaud refers to one case where through the system, they were alerted to a suspicious individual, which led to an investigation that revealed that person was planning to travel to Somalia to join a terrorist organization.

"If it would have not been for that one piece of information, we would never have known of that individual," says Michaud. "And because of that I would probably qualify SIR as the most effective initiative that has come out of the national security program in the last few years."

UNDERMINING NEW THREATS

In contrast with the energy sector, Canada's diamond industry is one of the newest in the world. Diamond production didn't start until 1998 in the Northwest Territories. But in those 14 years, Canada has grown to become the third in the world for producers of diamonds by value.

Cpl. Kelly Ross was working in Alberta on general duty with the RCMP in the mid-90s when he took notice of the emerging industry.

Having taken geology in university, Ross already had an interest in and knowledge of the unique mineral. On the side of his desk, Ross started cataloguing information and collecting articles, keeping track of what was happening in the industry.

"In the other major diamond producing areas in the world, they've got large contingents of officers that deal with the criminal aspects of the industry," says Ross, who is now Alberta RCMP's diamond coordinator. "At the time, I was envisioning the RCMP tasking resources to do the same and I wanted to be at the front end."

Because the diamond industry is so large with so many aspects to it, Ross says it's very vulnerable to being exploited by organized crime.

Diamonds are so appealing to the criminal element because they can be smuggled, easily traded for cash and also traditionally remain stable in value. In fact, historically, they have even increased at a rate higher than inflation, which few investments can boast.

And most diamonds are fairly homogenous — round, brilliant cuts without identifying features — which makes them hard to trace once they've been diverted.

However he says Canada's industry has two strong advantages that protect it from organized crime's involvement: security and location.

"The other countries have security protocols that are developed on the backs of all the failures elsewhere," says Ross. "So we have these fantastic security protocols and if you marry that up with the remoteness of most of the mines and the society we live in, there's less potential than elsewhere for exploitation."

The RCMP has taken a very proactive approach to protecting the diamond industry. They work closely with the producers to identify and eliminate risks, while keeping apprised of emerging trends and threats.

Ross says these kinds of partnerships are integral to protecting the industry. Production is already taking place in the Northwest Territories, Alberta and Ontario and he predicts Saskatchewan and Quebec will be soon to follow. And the RCMP is sure to follow its progress with a keen interest.

"So without a doubt, we're going to move into that second ranking position soon," says Ross. "We've only been at this for 14 years so we're only going to start to see new criminal activity. There's a whole host of things that can come up like blood diamond crimes or money laundering that we need to be on top of."

CATCHING UP WITH CRIMINALS

Historically, Canada's fishing industry has played a huge part in the economy. It should

A dump site from a clandestine lab in Richmond, British Columbia last year. Clandestine labs produce large amounts of waste that provide a serious threat to the environment.

B.C. RCMP Synthetic Drug Operations

come as no surprise then that organized crime has capitalized on this commercial success.

The RCMP has provided the Department of Fisheries and Oceans (DFO) with three liaison officers (LO) across the country, located in Nova Scotia, New Brunswick and British Columbia.

S/Sgt. John Langille, the former LO in Halifax, Nova Scotia, worked with DFO to share information and intelligence between the two organizations as well as help train and prepare fisheries officers for investigations.

Langille says the major concern on the east coast right now is fraud and collusion. Commercial fishers systematically underreport the amount their catches so they can exceed their total allowable catches. Some fish plants will take whatever they are offered and individuals, who work as dockside monitors are often threatened, intimidated or bought off so they won't report them.

The challenge for the fisheries officers lies in the fact that even if these fishers are caught in the act, they can still easily slip through their hands by dumping their illegal catch while officers are approaching. Usually, they are apprehended once the boat has docked.

"Fisheries officers have moved to major case management. They search the records of fish plants for how much they bought and then compare those numbers to what the fishermen have reported they've caught," says Langille. "Fish plants are buying a lot more fish than what the fishermen are reporting."

And on the west coast, DFO is tracking some links to other shady business.

Art Demsky, a fisheries officer in British Columbia, says the easy mobility of fishing boats has made it an appealing method for smuggling a variety of things — especially drugs.

One case in particular a couple years ago found $1.4 million worth of marijuana in the bottom of a container of live crab being transported to the southeastern United States. Smugglers had created a false bottom where they stored the package of drugs underneath the crustaceans.

"It's an easy way to launder," says Demsky. "Who's going to stick their hand into a box of live crab? Or sea urchins, which have spines on them, nobody's going to dump out a big box of those things and handle them. There's all kinds of slimy, smelly or live fish that nobody wants to sort through."

Art Demsky

Illegal shipments of abalone are often also used to transport other illegal items such as drugs behind false panels, in the fish or in the ice packs used to keep the fish cold.

Demsky says the criminals are quite inventive. He's even heard of people dissolving methamphetamine in water and using that to glaze fish or shellfish or putting the solution in ice packs for transportation across the border.

COSTLY CONSEQUENCES

Drugs are also playing a large part not just in the exploitation, but in the destruction of the environment.

Clandestine labs, producing synthetic drugs like methamphetamine and ecstasy, and marijuana grow operations provide serious threats to the environment.

Toxic fumes, mould and waste are created in the process and cookers or growers don't concern themselves with the cleanup. Barrels of waste end up polluting parks, water sources and even suburban communities.

Environment Canada and the RCMP share a Memorandum of Understanding that states Environment Canada bears the primary responsibility for environmental crime cases.

When deemed appropriate, they will request RCMP assistance such as in cases where specialized police techniques like wiretaps are needed. It's also understood that when organized crime groups are involved, the RCMP will take the investigative lead.

Sgt. Pierre Rivet, with the RCMP's Federal and International Operations, says that despite the agreement, the two organizations unfortunately rarely collaborate on environmental crime investigations.

"It's an area that's kind of forgotten because these organizations are busy enough fulfilling their respective mandates," says Rivet. "It falls to the individual member that sees it as a concern to try and fill the gap. Moving forward, we need to work more with federal, provincial and municipal agencies for a holistic approach to combat environmental crime."

Rivet says partnerships with all levels of government and non-governmental agencies are key in effectively pursuing and disrupting organized crime groups. Using the environmental and criminal legislations together will have the biggest impact and deter organized crime groups from getting further involved in environmental crimes.

"The RCMP does not want to 'take over,' Environment Canada and other provincial and municipal environmental agencies are already experts in this field," says Rivet. "If nothing else, this could be another tool to go after the culprits and hit their pocket books like fines and cleanup costs any way we can, along with protecting the environment."

Rivet says as a country, we rely heavily on our natural resources. He's hopeful that it will not take a huge hit to these assets for those responsible to take a more proactive and holistic approach to protecting those resources.

ROBBING OUR RESOURCES

RCMP UNIT TACKLES FORESTRY CRIME

By Sigrid Forberg

A huge part of British Columbia's economy is rooted in the forestry industry. So when a tree falls in the forest, even if no one hears it, it matters.

From fir to spruce and maple to cedar, British Columbia (B.C.) is home to a wide variety of trees. The province can be divided up into eight forestry regions that each face their own specific issues from stumpage fraud to arson.

There to deal with those issues is B.C. RCMP's Forest Crime Investigation Unit. The unit, which has been around for several decades, is one of the province's best kept secrets.

While the casework differs based on the region and the type of trees involved in the crimes, the biggest problems pertain to revenue.

Cst. Cameron Kamiya, who is currently the unit's only full-time resource, says that although a lot of the investigations are about fraud, the province isn't losing just revenue.

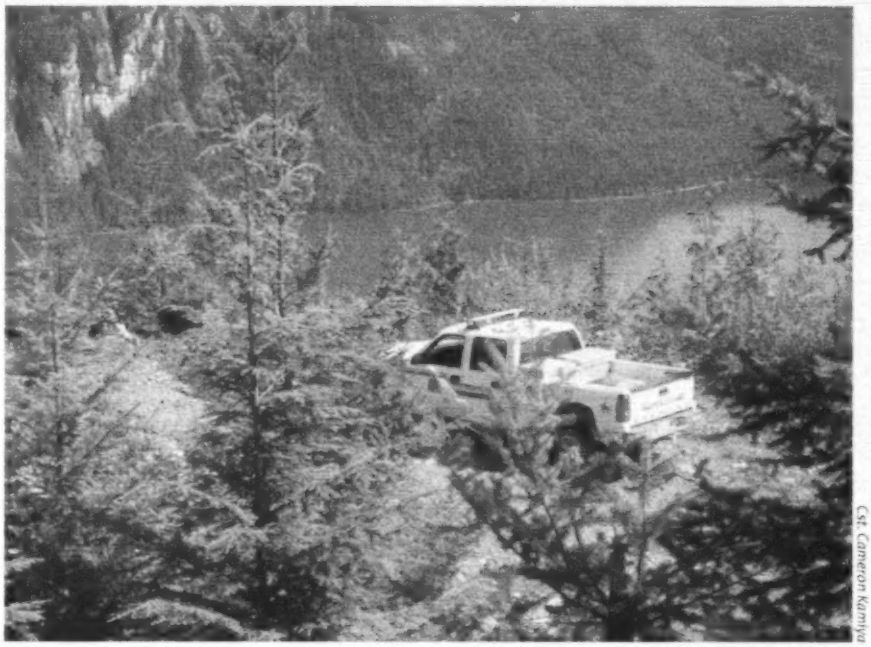
"Trees are very important for the B.C. economy, but there's also environmental and safety concerns, especially when it comes to arson," says Kamiya. "And we also have a lot of our recreational and tourism areas that depend on the forests."

Kamiya's role involves travelling the province and assisting detachments on revenue-related forest crimes. With just one full-time member, and one other member available for the bigger crimes, Kamiya keeps fairly busy.

"We investigate timber thefts, unauthorized harvesting on Crown and private lands, fraud, mischief, forest fires whether through arson or neglect," says Kamiya. "There's definitely no shortage of work."

One long-standing issue is stumpage fraud. The majority of trees in B.C. are located on Crown-owned land and therefore, when a licensee logs there, they are required to pay a fee to the government. Often licensees will report lower numbers or not even report at all.

On a smaller scale, along the lower mainland, theft of high-value maple trees with specific grain patterns used to construct instruments like guitars has also been a cause for concern.



Cst. Cameron Kamiya

The B.C. RCMP's Forest Crime Investigation Unit investigates forestry crime across the province.

Cedar trees in the interior and on the island, sometimes worth $5,000 to $15,000 each, are also vulnerable to theft.

The Forest Crime Investigation Unit works closely with the B.C. Ministry of Forests, Land and Natural Resource Operations. Brian Bubela, the field unit supervisor of the Compliance and Enforcement branch in the South Coast region, deals with Kamiya on a daily basis.

Bubela's four member team deals with the same kinds of issues as the Forest Crimes Investigation Unit. Often they will begin an investigation and if there are criminal aspects to it, the unit will take it over.

Like the Forest Crimes Investigations Unit, the compliance and enforcement branch's biggest challenge is a matter of resources.

"We're not getting out into the bushes as much as we used to, so we're not totally up to speed with what's going on in out there," says Bubela. "It's kind of a vicious cycle, when we don't get out in the field much it's hard to monitor operator's activities."

Most of the crimes take place at night or on the weekends when ministry employees aren't working, making it difficult to catch the poachers red-handed.

And for Kamiya, it's not possible to be in all of the forests all over the province all the time.

He's been trying to get around this challenge by going to detachments and providing training and showing police what to look for in terms of forest crimes.

Even simple things like checking logging trucks and what documentation loggers should have are things regular members can be made aware of to help cut down on forest crime activity at the local level.

Despite the heavy workload, Kamiya enjoys the job. Having completed a technical diploma in forestry and working in the forestry industry prior to joining the RCMP, he was pleasantly surprised to hear that he'd be able to combine his two careers.

"I never thought I'd use my education again," says Kamiya. "It's fun to meet everyone across this province and there aren't a lot of things you can do where you get to put on a pair of boots and go out into the woods for *the day."*

THE WILD SIDE OF POLICING

POLICE THINK STRATEGICALLY TO PROTECT ENDANGERED SPECIES

By Mallory Procunier

One of the RCMP's top priorities is protecting society's most vulnerable — but this commitment isn't restricted to human victims.

Endangered species and wildlife are also on the RCMP's radar, and some members can find themselves in some truly unorthodox investigations with unusual clientele.

Still in the early years of his service, Cst. Elliot Chubak has responded to dozens of wildlife calls.

The Hudson Bay, Sask. member has chased polar bears out of Rankin Inlet in Nunavut, coaxed arctic foxes out from underneath schools and herded caribou away from airport runways. He's also had a hand in protecting the dwindling population of swift foxes in his community.

In July 2011, Chubak spotted what he thought was a coyote pup along the side of a highway during a patrol. He immediately started recording the animal on his in-car camera and then brought the video back to the detachment, where he identified it as an endangered swift fox. Chubak later found out that there were only four of them left in Hudson Bay.

When a local animal control officer came in a few days later, Chubak asked him if he'd seen any foxes in the neighbourhood. Not only had he seen them, but the officer said he'd been trapping swift foxes and releasing them outside the community.

Chubak was quick to let him know that what he was doing was considered an offence under the *Wildlife Act*.

"You could compare what he was doing to someone going out and trapping bald eagles," Chubak says.

The officer agreed to stop handling swift foxes in the area.

"It wouldn't matter to me personally if it was a coyote pup or a swift fox," Chubak says. "My job is to protect and serve and I feel that includes the local wildlife."

SHARED RESPONSIBILITY

In small communities like Hudson Bay, the responsibility to protect wildlife can fall to general duty members. But in larger detachments, Federal Enforcement Sections (FES) handle these types of calls.

FES is armed with more than 200 statutes, from the *Canadian Environmental Protection Act* to the *Canada National Parks Act*. When any of these acts are violated, the investigation becomes an RCMP matter.

"The role of an RCMP officer can and does change instantly from *Criminal Code* matters to alcohol and gaming regulations to even *Wildlife Act* investigations in the blink of an eye," Chubak says.

In some cases, FES can be called in by another agency, such as Environment Canada or the Canadian Coast Guard, to help investigate a violation of a particular act. But sometimes it's simply a member's interest in a case that draws them to investigate it.

A PERSONAL CONNECTION

Cst. Mike Babstock joined the RCMP with a forestry degree and several years of experience repopulating the thinning endangered Newfoundland pine marten species.

His two worlds collided in 2010 when he entered a house in Corner Brook, Nfld. on a search warrant and found 27 exhibits of taxidermied wildlife, including a stuffed Newfoundland pine marten.

The RCMP initially got involved because of the *Wild Animal and Plant Protection and Regulations of International and Interprovincial Trade Act* breaches, but it was the pine marten that caught Babstock's attention.

"Hunting of other small animals and forestry practices in Newfoundland have been modified to help protect this animal so it was of interest to us that this person was now trying to sell one," Babstock says.

Babstock took the specimen to Newfoundland's Memorial University where scientists at the Genomics and Proteomics facility ran tests and found out that it was in fact a Newfoundland pine marten.

With this extra bit of leg work, Babstock was able to add an additional charge under the *Endangered Species Act* of Newfoundland and Labrador.

"I know there are agencies out there that are trying to keep this population alive and then at the same time we've got people who've got them seemingly for sale," Babstock says.

SAME INVESTIGATION, DIFFERENT CLIENT

Chubak says he's thankful that he had several strong leaders in the beginning of his career that prepared him to be able to transition from one investigation to the next, regardless whether the client is animal or human.

"There are three questions we need to ask ourselves as police officers: what do you know, when did you know it and what did you do about it," Chubak says. "Those three statements answer almost all scenarios we deal with in our daily functions as police officers," including wildlife cases.

Police enforce statutes to protect endangered species like this Newfoundland pine marten.

John W. Gosse, Parks Canada

HOW CAN POLICE BETTER TACKLE POLLUTION CRIME?

THE PANELISTS

Sgt. Pierre Rivet, Special Project, Drugs & Organized Crime Branch, RCMP
Sgt. Jeff Asmundson, former environmental review co-ordinator G8/G20 Summits, RCMP
Ret. S/Sgt. Ken Chatel, Border Integrity, RCMP

SGT. PIERRE RIVET

The Canadian government has pledged to preserve Canada's natural environment. Environmental crime is not often viewed as a policing issue in Canada, even though it is defined as an act or omission that violates federal, provincial or municipal environmental regulations or laws that endanger human health and the environment. The potential consequences of such crimes are significant: loss of life or sickness from pollution and chemicals in food and water sources, destroyed habitats and depleted natural resources, which could lead to many irreversible outcomes, such as the extinction of animal species.

Environmental crime is falling through the cracks. There is currently an intelligence gap in the area of environmental crime in relation to the collection and retrieval of data. This is due in part to the fact that that the RCMP for one, does not keep statistics on environmental crime offences as they are often reported as frauds. Organizations such as Environment Canada and their provincial and municipal counterparts focus primarily on enforcing regulatory offences while the RCMP is occupied fighting high-profile criminal offences like illicit drugs and cigarette smuggling. A holistic approach to combatting environmental crime would prevent the law enforcement community, government, and non-government organizations from limiting themselves by their respective agendas, at Canada's expense.

There is a memorandum of understanding with Environment Canada in which the RCMP takes the lead in any environmental crime investigation involving organized crime and/or requiring the use of its sophisticated investigative techniques. Unfortunately, there are very few investigations involving these two agencies collaborating towards combatting environmental crimes. As a result, organized crime exploits the lack of police involvement investigating environmental crime.

The waste produced from synthetic drug laboratories and marijuana grow operations (MGO) continues to threaten Canada's natural resources. The toxic by-products of synthetic drug laboratories are often poured down the drains of homes, which in turn find their way into Canada's water sources or result in severe chemical/fire hazards. On average, five to seven kilograms of hazardous waste are created for every kilogram of methamphetamine produced. In response, the RCMP is currently leading an initiative to develop and strengthen relationships with Environment Canada (and provincial and municipal environmental protection agencies) to work together on synthetic drug laboratories and MGO drug investigations. The partners will collaborate to investigate and pursue both the illicit drug production as well as the environmental crime portion of the offence that are currently being neglected by law enforcement.

Environmental crime has an impact on all five of the RCMP's strategic priorities and criminal activities are increasingly crossing many geographical and legislative boundaries. An integral component of the RCMP's strategic framework and vision for the future

is integrated policing.

It's imperative that the RCMP works collaboratively with communities and partners at every level to ensure the best results or outcomes against threats such as organized crime.

SGT. JEFF ASMUNDSON

The RCMP can become involved in pollution crimes if the offence is connected to organized crime. However, our experience in major case management can be an asset to other agencies when it comes to co-ordinating investigations. Pooling resources and planning a co-ordinated investigation can maximize the impact on offenders.

Much of the existing environmental legislation at the federal, provincial and municipal levels come with severe fines and penalties. Some of the fines associated with pollution are substantial, often running in the tens of thousands of dollars. In many cases, these may surpass the fines and sentences handed out by the courts for the *Controlled Drugs and Substances Act* (CDSA) or *Criminal Code* charges.

The RCMP investigates MGOs, methamphetamine labs and vehicle chop shops across the country. All these activities have the potential to impact water, air, soil and public safety.

All too often, the RCMP or our partners in government are stuck with the bill and the responsibility of properly disposing of and cleaning up waste associated with these illegal activities. The cost of cleaning up a small meth lab in a residence can be more than $20,000. Transferring this cost to the accused could provide a powerful deterrent.

When compared to methamphetamine labs, large-scale grow operations present a lower risk of environmental damage, but there are risks nonetheless. The environmental costs include mercury in the bulbs and fertilizers containing high amounts of phosphorus and nitrates that can harm water quality. A formalized strategy would help to align legislation so these costs are placed on the accused or the organized crime group. Restitution is often requested in property crime offences. The same approach could be applied to MGOs or meth labs.

Alberta Health Services has had success with a multi-faceted approach to dealing with marijuana grow ops. Its Environmental Public Health department has developed a grow-op abatement program — an aggressive strategy dealing with the remediation of homes used as marijuana grow operations. This collaborative program, which also involves the RCMP, municipal police, fire and other municipal public safety professionals, protects public safety and reduces the environmental impacts commonly associated with MGOs. The homeowner is responsible for all remediation costs and is required to hire a certified environmental consultant, who develops a remediation plan and oversees its execution. Included in the remediation is arranging for the safe disposal of environmentally harmful items. The City of Calgary requires that homeowners pay $5,000 for an environmental restoration permit, which ensures that electrical, plumbing and gas connections, as well as building structure, all meet code.

Environmental investigations could also serve as another tool available to police for combatting organized crime. For example, police could adopt a model similar to that used in proceeds of crime investigations. Because proceeds of crime investigations often run alongside drug investigations, police are able use investigators and experts in proceeds of crime to gather pertinent elements of the proceeds offence and seize money, property and equipment related to the offence. Drug and Proceeds of Crime investigators can lay chargers under both the CDSA and the *Criminal Code*. The offender is charged with more offences, and the proceeds of crime are seized to impede their operation.

Developing this type of strategy would help create better investigative links between the RCMP and agencies such as Environment Canada. Working co-operatively and sharing resources, expertise, training and communication could help all agencies meet their mandates.

RET. S/SGT. KEN CHATEL

Tackling pollution crime is a challenging and complex area of criminal investigation. No one law enforcement agency is responsible for investigating all types of pollution crime nor does any one agency have the resources and expertise to handle them all. A joint agency taskforce would definitely be the most effective way to approach these cases. These taskforces must include both provincial and federal crown prosecutors.

Prior to retiring from the RCMP in 2011, I looked at environmental pollution associated with illegal drug operations; electronic waste that was illegally disposed of or shipped out of the country; and toxic waste collection and dumping. In each investigation, I partnered with agencies such as Alberta Environmental Protection, Environment Canada, Department of Fisheries and Oceans, Canadian Border Services Agency and municipal by-law services in several communities. The RCMP Federal Enforcement Section, Customs and Excise and Drug Sections all had roles in files involving environmental crime.

In Alberta, we generally had to prove the substance released or deposited into the environment would cause a significant adverse effect to the environment, or is deleterious to fish or fish habitat, depending on the legislation we were using. For waste dump sites — whether from methamphetamine labs or other types of toxic waste — it's generally easier to prove that what is present will or has caused an adverse effect. These cases can cause significant environmental damage and generally get more press.

However, marijuana grow operations have not attracted as much environmental crime enforcement. Most of the environmental damage at an MGO is from the use of the pesticides, herbicides and fungicides. These chemicals end up entering the sewer systems or sometimes the environment through the soils discarded after the MGO is vacated. In many cases it is difficult to prove the adverse or deleterious effects from one MGO. Thus, charges are rarely laid.

We need to understand the cumulative effects of the chemicals entering the sewer system from multiple MGOs in a community. Due to the number of MGOs, especially in larger centres, these effects could be as damaging over time as toxic waste dumps. But we need more information to properly investigate and prosecute these cases and to be able to show that in fact a single MGO does cause significant adverse effects.

This is where we need to partner with universities and colleges to encourage research and testing projects to determine the effects. The *Environmental Enforcement Act* has an Environmental Damages Fund (EDF) to which penalties are directed. We should encourage professors to apply for EDF money to run a project on the cumulative effects of the MGO on the waste water treatment plants and then the rivers receiving the expelled effluent. The data discovered will be very important for our understanding of the problem and future prosecutions.

WHEN THEY REAP WHAT YOU SOW

CRACKING DOWN ON CANOLA THEFTS IN RURAL CANADA

By Mallory Procunier

For years, canola farmers have been seeing high prices and new uses for their crops. But it's what they haven't been keeping their eyes on that's the problem.

SILENT STEAL

Canola has been a target for thieves in the Prairies for over a decade. A wave of thefts hit Killarney, Man. in the early 2000s and left many farmers with half-empty grain bins and no one to blame.

A farmer in Tuxford, Sask. lost $16,000 worth of canola in February 2008. Another in Rathwell, Man. was robbed of 2,200 bushels of the cash crop in October 2011 that totaled $26,400.

"Thieves are doing it because there's money in it," says Dr. Véronique Barthet, program manager of oilseeds research at the Canadian Grain Commission (CGC). "It's easier than robbing a bank and, at $500 per ton for canola, you can get a lot of money very fast."

In a swift transaction, thieves are able to sell thousands of dollars worth of canola to grain elevator companies.

"It's very quick, just a matter of half an hour or so to pump the grain into the elevator, give the person a cheque and the thief is on his way," says Cst. Luanne Gibb, formerly of the Killarney detachment and currently posted to Amaranth, Man.

Even though it's Canada's most valuable crop, canola is almost too easy to steal.

Some farmers store their canola in grain bins that sit in unsupervised farm yards. All a thief needs to do is fire up a grain auger, haul 600 bushels of canola out of a bin, load it into his or her truck and drive away.

WORKING BACKWARDS

Bandits have been getting away with it for so long because grain theft crime is difficult to investigate, Gibb says.

It's challenging to prove that canola was actually stolen, and by the time farmers realize they've been had, they assume it's too late to track down the thief so they don't file a police report.

They also blame themselves for missing canola because they handle such large quantities of it and only occasionally check their bins between harvest and when they sell their product.

"If someone takes 600 bushels out of a large bin that holds 3000 bushels, you're never going to notice that, unless the farmer opens the bin to check," Gibb says. "Some farmers chalk up the shortfall to their bad record keeping and they refuse to believe that their grain was actually stolen which, in fact, is exactly what's happened."

Even when they do notify the police, it takes inventive methods of investigation to connect the culprit to the crime.

But unlike other stolen property investigations, the tricky part is tracing stolen canola back to its owner.

"It's very difficult to say that stolen canola came from a certain person's bin," Barthet says.

"DNA won't show this stuff like it does in humans."

NEW METHODS

It may be difficult, but it's not impossible. Last year, Gibb reached out to Barthet at the CGC to try and prove that hundreds of bushels of stolen canola actually came from a complainant's bin.

Using the CGC's huge canola database that can compare canola samples in 20 different ways, Barthet was able to figure out that a sample of the grain that was sold at one elevator by the thief was the same as the one that the victim provided.

"It's lucky that we're working with canola because we have chemical databases that go back for many years but that's not the case with something like wheat," Barthet says.

Gibb says the CGC may not be able to provide assistance in every canola theft investigation, but it worked for her. She's now looking at the problem in a more proactive way by strengthening the flow of communication between farmers and police to make sure they are aware of the issue and how to prevent it.

Gibb encourages farmers to check on their bins to make sure they are properly locked, block access to their abandoned farm sites and simply make it more difficult for thieves to get to the bins.

She's also promoting grain confetti — small, numbered, paper flakes that can be mixed in with canola and registered to the owner to stop thieves from cashing in someone else's crop.

Thieves are tapping into canola grain bins because they're easy targets and yield high rewards.

CUTTING OUT CORRUPTION

ITALY'S APPROACH TO THE ILLEGAL LOGGING AND TIMBER TRADE

By Supt. Marco Fiori, investigation section, State Forestry corps, Italy

Trafficking in timber, the illegal import and export of protected species, illegal logging, and using the profits of the illicit timber trade used to fund wars (conflict timber) are worldwide problems causing the depletion of huge tracts of primary forests.

Every year, an area of forest equivalent to the territory of Austria disappears due to uncontrolled, and often illegal, exploitation. The destruction of forest has consequences: desertification, climate changes, loss of essential carbon reserves, flooding and landslides, disappearance of plant and animal biodiversity, socio-cultural impoverishment of communities living in the area, and a negative economic impact on the legitimate timber industry.

Organized crime is a big player in the illicit timber trade. Criminal groups make huge profits from cutting and selling forest resources, committing offences that range from bribery of public officials, to damaging natural resources and using the profits of illegal wood trade to finance local conflicts and arms purchases. Information from UN Security Council sources also suggests the involvement of timber exporters in the illegal arms trade.

State Forestry Corps

Surveillance in Abbruzzo National Park, Italy.

THE CORPO FORESTALE DELLO STATO

In Italy, the *Corpo Forestale dello Stato* or CFS's (State Forestry Corps) main role is to carry out inspections against illegal trafficking of protected timber.

CFS combats illegal exploitation of timber species at the national and international level by enforcing the Washington Convention (Convention on International Trade of Endangered Species of wild flora and fauna, or CITES). As the monitoring and enforcement authority, CFS has a network of 50 offices including the *Nuclei Operativi doganali* (operational units at customs points) and CITES Territorial Services.

The 22 CITES operational units of the CFS control the international trade in species provided for in the Washington Convention. Five of these units operate at the maritime port customs of Trieste, Genoa, Naples, Salerno, Ancona and Ravenna where containers arrive from the countries of origin with loads of exotic timber protected under CITES.

COMBATTING ILLEGAL TIMBER

Along with Germany, France and Spain, Italy is one of the main EU countries importing timber for processing. Ramin wood of Asian origin and African afrormosia are the CITES protected species mainly processed at present.

Intelligence and investigation sources belonging to international channels such as CITES Geneva, the INTERPOL Wildlife Crime Working Group, and customs increasingly report cases of three-way trade in specimens via transit countries. Similar situations have been reported with other species, like the African grey parrot, introduced from Ghana through nearby Côte d'Ivoire where CITES certificates were facilitated by corruption.

In the mid-1990s, reptiles and birds were illegally imported into the European Community through Eastern Europe — at the time not yet part of the EU — by means of forged CITES certificates.

Similarly, it appears likely that major consignments of illegal timber (such as Indonesian ramin) may be introduced through the ports of neighbouring countries like Malaysia and China to avoid export restrictions, obtain certifications of convenience and reach European and Italian ports after several stops, making tracking impossible.

International police co-operation is the only way to effectively enforce these forms of illegal trafficking.

Only by establishing direct operational networks between officials or field officers in the countries of destination (eg. Italy) and the countries of origin (eg. Indonesia), can police intercept shipments of illegal timber. This principle applies both to illegal practices involving CITES (the import-export certification scheme) and to situations where there is documentary evidence of illegal activity.

For example, should an Indonesian official learn about a timber consignment that has just escaped customs or police controls in that country, he or she can send the relevant information either through Interpol (Eco-message, flash message), the CITES enforcement official, or the customs officers to the contact point in the country or countries of destination. This would kick-start the investigation and the public criminal proceedings in that country.

At the same time, such actions have to be supported by co-operation between the different national Wildlife Law Enforcement Authorities (CITES, Customs, the State Forestry Corps, etc.) and encouraged by the police authority in the country of origin through a continuous exchange of investigation findings, evidence and data.

ENVIRONMENTAL CRIME MANUAL

INTERPOL PRODUCES HOW-TO GUIDE FOR POLLUTION FORENSICS

By Emile Lindemulder, Intelligence management and pollution crime officer, INTERPOL Environmental Crime Programme

Pollution doesn't respect international boundaries and neither do those who perpetrate environmental crimes for profit.

The temptation for illegal profits combined with the global financial crisis produces complex scenarios that impact not only organizations and individuals, but also the economies of countries, the health of their citizens and their wildlife, and the sustainability of their food sources.

CHALLENGES FOR DEVELOPING COUNTRIES

In countries with emerging economies, the lack of expertise to detect and collect forensic environmental evidence is further complicated by the fact that they are prime targets for small operators, corporations and organized crime syndicates. These groups can take advantage of developing countries and cause new pollution, create and export banned substances or utilize non-existent or poorly enforced laws to import waste for illegal disposal or recycling.

Regions faced with environmental deterioration and food shortages may see increased irregular migration and human trafficking. Countries may struggle with such problems as illegal artisanal mining and theft of natural resources. Legitimate companies may be pushed towards illegal waste disposal to improve their bottom line. While developed countries may reach reasonable conviction success rates, those of developing countries are much lower. Where individuals and organizations are willing to break the law, organized crime groups will be there to take advantage.

Frontline police officers may not immediately think of INTERPOL for support in addressing environmental law enforcement. Most officers know the international police organization in relation to more traditional types of crime such as drug trafficking or wanted person searches, but for the past two decades, INTERPOL has also been assisting member countries to fight environmental crime.

INTERPOL established its Environmental Crime Committee in 1992. This external committee is composed of environmental law enforcement officials from member countries operating under the auspices of, and in close co-ordination with, the INTERPOL Environmental Crime Programme. The committee currently consists of a Wildlife Crime Working Group and a Pollution Crime Working Group and identifies and addresses various issues and trends in environmental crime. The committee provides an additional link for the INTERPOL Environmental Crime Programme with specialist law enforcement officers from its member countries.

ENVIRONMENTAL FORENSICS

Annual meetings provide an opportunity for the committee to advance ongoing projects, identify and discuss new problems encountered in the field and ultimately find solutions. During the committee's biannual conference in September 2010, it was concluded that forensics is a crucial component to successful environmental prosecutions.

The committee also identified the lack of forensic capacity in many countries, particularly in developing regions, as one of the challenges in building solid and successful environmental crime cases. Environmental regulations frequently have very technical specifications, which can often result in an unnecessary reluctance among law enforcement officers to take on cases, for example, when responding to a pollution report. This may be because officers feel they don't have adequate training and information to interpret the legislation in order to actually determine whether there is probable cause. In other situations, the forensic expertise required to obtain strong and convincing technical evidence beyond a reasonable doubt may not be available or hard to find.

Globally, the discipline of environmental forensics has undergone major developments. Unfortunately, most state-of-the-art environmental forensics laboratories around

the world perform their highly skilled science in relative isolation from their international colleagues. At best, this results in unnecessary duplication of effort in determining new protocols to support evidence gathering, and at worst, it means that many environmental enforcement programs remain in the dark about how to provide the forensic proof required to establish certain facts in a case.

To facilitate and encourage the sharing and exchange of environmental forensics techniques among professionals worldwide, INTERPOL's member countries recommended that the organization adopt a proposal to initiate the INTERPOL Pollution Crime Forensics Project.

USER-FRIENDLY MANUAL

Many environmental enforcement programs do not have the resources to purchase and maintain all of the latest technology. An important part of the project is to help developing programs that identify the basic forensic evidence required to support environmental prosecutions and how to present this technical evidence in the legal forum. A key element of this is the development of a manual on the basic forensic requirements in the field of environmental enforcement.

In May 2011, forensic experts from around the world gathered for a three-day INTERPOL conference and the project's official launch. Fifty representatives from 17 countries provided a key forum for investigators, forensic experts and prosecutors to determine the minimum standards for the successful prosecution of environmental criminals.

Convinced of the need for this manual, Environment Canada offered its senior engineer and national operational advisor, Peter Krahn, to co-ordinate the project, encourage input from project members and monitor the content quality. Richard Strub from Environment Canada's science and technology laboratory in North Vancouver was added to the team to manage the analytical chapters of the manual. Environment Canada also made its national manuals available for use.

One significant challenge was to determine the minimum standard for environmental forensics. One question from a Denver participant gets to the heart of the matter: "What can I do to make a better case, when my only tools are my notebook and my cell phone?"

CONSULTING KEY USERS

The INTERPOL Pollution Forensics Project design process for the manual is unique in that the target countries were consulted to identify their most pressing pollution scenarios. Those countries provided 60 crime scenarios, from which 20 were identified as being the most pressing issues. Once the key scenarios were identified, the project team established five technical teams and one analytical team.

The different scenario teams engaged in a creative phase whereby the crime scenes were visualized and then laid out in a combined graphic and sequential investigative approach format. This design helps both the investigating officer and the forensic specialist to recognize where evidence might be found and how to collect it.

It also flags key safety issues that are frequently involved due to the chemical and biological hazards inherent in pollution crime scenes. Evidence interpretation and presentation is a key feature of the manual — even in developed countries, highly scientific evidence is often difficult for the legal and judicial system to interpret. To assist with the communication of technical evidence, various scenarios provide examples of how scientific information can be formatted to make it more understandable to a legal audience or even the lay public.

It's anticipated that most of the issues in the original 60 scenarios will be represented when the 15-20 detailed scenarios are complete. The range of scenarios will vary from common sewage spills to illegal dumping or incineration of domestic and hazardous wastes.

The first edition of the manual is specifically aimed at assisting officers in developing countries and during this initial creative phase, the teams have compiled as much practical experience from their respective countries as possible. This has led to the inclusion of scenarios that have never before been considered by some of the project members, such as illegal disposal of blood and sludge from hospitals or abattoirs into street sewers or waterways and the associated serious health and pollution risks.

INTERNATIONAL AUDIENCE

One of the challenges in writing such an international manual is the need to balance the contents in such a way that it can be used in all countries without being too generic. The Canadian manuals that form the basis have had their country-specific regulations removed and replaced with tips and techniques from all contributing countries.

Writing a manual that can be effectively used under such circumstances also necessitates a focus on safety. When the scenarios are complete, a safety team will review them and ensure that common hazards and preemptive or protective measures are identified. The graphic design of the manual is especially useful in this regard since, in some countries, police officers with limited science training are often the first responders. The visualized depictions provide critical advice such as how to approach a scene from upwind to avoid inhaling toxins and how to set up a basic chemical containment system to protect the public and responders.

During its annual INTERPOL Pollution Crime Working Group meeting in Bangkok, Thailand, delegates from 60 countries presented project updates. An investigative approach has been developed for each of the scenarios, with the objective of collecting the most essential evidence using the simplest and most cost-effective techniques. This supports enforcement programs with limited technical resources to present a case for the successful prosecution of an offence.

The Bangkok meeting enabled potential users to examine the scenarios, review the content and provide the design and editing teams with suggestions for improvements. Valuable input included simple things like the need for clear and straightforward terminology, identifying standards and classifications for safety equipment, and ensuring the wording in one language has the same meaning in another.

Following detailed revisions and reviews by a scientific support group in December, the first draft manuals will be released to a selection of developing countries for field testing. Updated with feedback from this initial test, the project aims to publish its first edition in the summer of 2013.

In the future, INTERPOL hopes to expand the manual with more advanced best practices, state-of-the-art techniques and innovative methods. The project also aims to seek funding to develop and distribute environmental forensic field kits that meet the established minimum requirements in developing countries to assist officers working under harsh conditions in challenging environments. ■

VOICES FOR THE VULNERABLE

LONDON POLICE ANSWER CALL FOR WILDLIFE PROTECTION

The Metropolitan Police Service's Wildlife Crime Unit works with non-governmental organizations like the World Society for the Protection of Animals (WSPA), who recently donated £100,000 to the unit, to fight wildlife crime in the greater London area. Gazette *writer Sigrid Forberg chats with Sgt. Ian Knox, head of the Wildlife Crime Unit, about the nature of wildlife crime in the city and how the unit has evolved to combat it.*

HOW DID YOU GET INVOLVED WITH THE WILDLIFE CRIME UNIT?

I was a beat sergeant in an outlying division and I became aware that this role existed. It's a role that officers did in addition to their normal duties. I think most people have some sort of affinity with wildlife and the environment. I can't say mine is any more than most but certainly when I found that this was a role that was open, I was very keen to do it.

And then in 2003, we convinced the senior management that in fact there was sufficient work to support a full-time unit.

CAN YOU TELL ME A LITTLE ABOUT THE UNIT'S MANDATE?

The main purpose of the wildlife crime unit is to enforce the laws protecting indigenous and exotic wildlife in the U.K. and to implement initiatives to prevent wildlife crime. We do that in a number of ways. You can start the wheel at any point. You can start with crime prevention and public awareness, which will lead to people telling us about things and that intelligence will lead to enforcement. Or we could start with enforcement and go the other way. So it's a very simple strategy.

WHAT'S THE SCOPE OF THE WILDLIFE CRIME SITUATION IN THE UNITED KINGDOM RIGHT NOW?

We don't have a national police force here. We have, at last count, about 52 different forces. Virtually every one had an officer that dealt with wildlife crime, but we did that in a very ad-hoc and unconnected way. And it was in the late 90s, early 2000s that we sort of came together through the work of NGOs and formed a sort of association called the Partnership for Action against Wildlife Crime.

And since then, it has been developed further, we have now a national wildlife crime unit based in Scotland and that is basically our intelligence cell. And we also initiated a strategic tasking and co-ordination group that's headed by senior personnel from the police and from various statutory bodies. And so on the basis of intelligence and information from the scientific authorities, they determine the priority areas for wildlife crime.

WHAT HAS CHANGED THAT IT'S BECOME A BIG ENOUGH ISSUE TO NEED A FULL-TIME UNIT?

Well, I think that wildlife crime was something that was always left to charities to deal with. But in actual fact, that was ignoring what the law said. It's a police responsibility and has been for many years. Certainly since the 1980s but before that, various acts go back to the 19th century. So I think the change has been interested officers taking on this type of work and actually finding just how big a problem it is in the U.K.

SO IS IT MORE OF AN ATTITUDE ADJUSTMENT THAN AN INCREASE IN CRIME?

I actually think when I look at the information and intelligence coming in from around the world, that we are seeing an increase in the endangered species trade. And as fads come and go, people become interested in various types of activities that are in fact illegal.

We used to see openly on sale certain products — shahtoosh for instance, the wool of a Tibetan antelope. We don't see that anymore. And not because of anything we did, but because of actions around the world related to raising public awareness.

But then something else comes along to replace it. For instance, in recent years: rhino horn. Someone mistakenly broadcast that it was a cure for cancer. And of course it's not, but people begin to chase after it because desperate people take desperate measures. And so fads come and go; there's always going to be wildlife crime.

Sgt. Ian Knox (centre) conducts a raid of a traditional Chinese medicine shop.

Sgt. Ian Knox

But I think on average, I would say it's rising rather than falling.

IS THE UNIT SEEING ANY CURRENT TRENDS OR BIG ISSUES?

The main issues for us at the moment are certainly the trade in ivory in London in the endangered species trade. And every city, every country has problems with developing lands which interfere with habitat so that's always going to be an issue to make sure that people are complying with the laws in terms of development.

We have a healthy population of native species of birds but traditionally, particularly in the east end of London, we've had this issue of finch-trapping where small songbirds are caught for the cage bird market. And of course it's illegal. All British wild birds are protected in the U.K.

SO WHO ARE COMMITTING THESE WILDLIFE CRIMES?

We talk about wildlife crime but it isn't just one crime. And there are many different versions of wildlife crime and many different types of trade within just the endangered species trade. People who are involved in importing timber and endangered species of plants are not the same people involved in importing ivory.

And if you're looking at the bush meat trade, you'd be looking at a different set of people again.

And that's just the endangered species trade. The people who trap indigenous species of birds are probably not the same people illegally hunting with dogs. So there are many different types of people who get involved in wildlife crime. The only common ground is criminality — they're all committing crimes.

IS THERE ANYTHING UNIQUE ABOUT THE SITUATION IN LONDON THAT SETS IT APART FROM OTHER CITIES IN TERMS OF ATTRACTING WILDLIFE CRIME?

Well, I think at first glance, one might say you haven't got much wildlife living in a city. But that's not actually true. We have a very healthy population of endangered species in our indigenous populations of wildlife such as peregrine falcons, or the great crested newt, and of course more common species but all are protected by law. And when we look at the endangered species trade, well, London is a big city and it's a major port of entry into the U.K. It has a very large cosmopolitan population and it's a huge commercial centre. So it shouldn't be a surprise that we probably have more of the endangered species trade here in London than we do elsewhere in the country.

Ivory seized by the Wildlife Crime Unit of the Metropolitan Police.

HOW DO NGOs LIKE WSPA HELP THE POLICE?

Just after I joined this very loose band of wildlife crime officers in 1995, we began an operation called Operation Charm, which was looking at the endangered species rate actually across the country, which is still running now and looks into the endangered species trade in London. In 2006, we decided that we the police had taken it as far as we were able with our resources and so we opened it up to other agencies, predominantly NGOs.

And what they are able to bring to the partnership are new ideas for public awareness because that's what they do: they raise public awareness about issues. They're experts at that and that's good news because they basically assist us with generating public awareness initiatives and we supply the enforcement side.

So apart from money, they bring ideas and resources and personnel. So it's a very useful partnership.

LOOKING FORWARD, WHAT ARE YOUR BIGGEST GOALS FOR THE WILDLIFE CRIME UNIT?

We want to be able to more effectively carry out public awareness messaging. I think that's very important, particularly with the endangered species trade.

Everyone knows there's an endangered species trade but it's something that happens in Africa or Asia, but there's not much the U.K. can do about that. We can't get involved in anti-poaching of tigers because we don't have tigers in the U.K. But what we do create here is the demand and it's the demand that drives the trade. People wouldn't hunt rhinos and tigers if there wasn't a demand for their products and that's something we can have an effect on.

That's what happened with shahtoosh: people around the world were looking at this aspect of the endangered species trade and doing something about it.

And that had a very big effect. Some years later, we had a visit by one of the anti-poaching patrols from China, and they said to me that things have changed for the antelope. They were finding them in greater numbers and in places they hadn't seen them for many years.

So by reducing the demand, we can have an effect on something that happens many miles away.

USFWS Forensic Laboratory

Veterinary pathologists at the USFWS Forensic Laboratory's Necropsy Center use new alternate light source scanners to visualize trace evidence materials on a brown bear carcass.

WILDLIFE FORENSICS

SCIENCE SUPPORTS CHALLENGING INVESTIGATIONS

By Ken Goddard, Director, National Fish and Wildlife Forensics Laboratory, USA

Sitting in the beautifully decorated conference room of a Bangkok, Thailand, hotel recently, listening to the second of four Interpol Environmental Crimes Committee speakers making his presentation on the use of forensic science in solving wildlife crimes, I couldn't help thinking back to the immortally sung lyrics of 60s icon, Bob Dylan: the times they are a-changin'.

As far back as I can remember, there have never been more than two speakers advocating the use of forensics at any of the Interpol Wildlife Crimes Working Group meetings I've attended. Our brief presentations rarely generated into any serious scientific discussions among the international wildlife investigators from 50-some countries who likely felt they had far more serious and complex issues to consider in the brief time they would be together.

And as I sat and listened to police investigators make presentations that described a mind-numbing array of range country slaughters, cross-border smuggling and bureaucratic corruption, I really couldn't disagree with that viewpoint.

The central issue of our most recent annual meeting — the wanton destruction of our planet's wildlife resources by international criminals, operating out of pure, unadulterated greed and avarice — was huge, rapidly expanding and seemingly unresolvable.

Yet, in an adjacent conference room, the Pollution Crimes Working Group of the Environmental Crimes Committee was devoting the entire day to the application of forensic science to pollution crime scenes.

It has taken a while, but these environmental crime investigators who devote their careers and their lives to fighting the unrelenting destruction of species and habitat, now realize they have an increasingly effective array of tools they can use to identify their suspects, link them to their victims and crime scenes, and take them before national and international courts of law.

Now all the forensic scientists and agency managers need to do is to make those tools readily available to the rangers and investigators in the field. It won't be easy to accomplish.

The laboratory that I have the privilege to direct — the Clark R. Bavin National Fish & Wildlife Forensics Laboratory in Ashland, Oregon — remains the only full-service crime laboratory devoted to wildlife in the world.

But I'm happy to add that, here again, the times seem to be changing at a rather rapid pace.

Wildlife forensic scientists working in one- or two-person labs in a handful of our states, and in an equally small number of other countries, are rapidly becoming a formidable force. Through the newly formed Society for Wildlife Forensics, they are linking up to share their databases, protocols and expertise, and to help each other meet the professional certification, accreditation and proficiency standards now being demanded of traditional police crime labs. All of this so that these scientists can receive physical evidence items from their associated wildlife rangers and investigators, and be ready to present the significance of that evidence in their courts of law.

But these wildlife forensic scientists have a challenge to overcome in their analysis of evidence that a police forensic scientist rarely encounters. Before they can begin

their time-honored task of linking suspect, victim and crime scene (and because they rarely receive a whole animal as evidence), they must first figure out what their victim is, based on the wildlife parts and products that the rangers and investigators submit for analysis. It will make a big difference as to what charges are ultimately filed in court if the victim turns out to be an endangered, threatened or protected species.

Because these submitted wildlife parts and products rarely possess all of the species-defining characteristics routinely used by biologists to properly classify a whole animal, wildlife forensic scientists must first conduct extensive research to determine new species-defining characteristics based on a wide range of an animal's potential parts and products.

And just to make things more interesting, wildlife forensic scientists can't make assumptions as to the country of origin of these partial evidence items. Given the highly efficient global transportation systems available to wildlife poachers and smugglers, the only acceptable assumption these researchers and analysts can make (at least for the moment) is that the part or product originated from somewhere on our increasingly put-on planet.

These problems might seem daunting, at first glance; but just as new tools become available to wildlife investigators, so has a far more extensive array of instruments, protocols and databases become available to wildlife forensic scientists.

NEW TOOLS AVAILABLE, EVOLVING

Morphologists (forensic scientists who study animal and plant structures) continue to expand their collections of known hair, fur, feathers, claws, teeth, bones and skulls that they use as comparison standards to enable them to visually and microscopically identify a wide range of submitted evidence items.

Geneticists (nuclear and mitochondrial DNA analysts) continue to enhance and expand their capability to identify tissues as to genus and species. Even more powerfully, they can match (for example) a gut pile at a kill site to a mounted trophy head on a wall, or wrapped meat in a freezer, or blood on weapons, vehicles and clothing. Their ultimate goal is to develop FBI CODIS-like STR (single tandem repeat) protocols for every species that remains a target for illegal killing.

Firearms examiners are now taking advantage of new bullet manufacturing developments to match plastic bullet tips found in illegally killed animal carcasses back to a specific manufacturer and/or caliber of bullet.

Fingerprint examiners are making use of newly modified technologies (monochromatic laser light sources and large vacuum metal deposition chambers) to visualize latent prints on weather-exposed evidence items that simply weren't workable a few years ago.

Veterinary Pathologists are making use of modern equipment (laser scanners and digital camera/x-ray systems) to document and report their cause-of-death findings in a far more rapid and efficient manner than was thought possible a few years ago.

And even forensic chemists — those careful analyzers of potentially lethal poisons and pesticides — have found new uses for their mass spectrographs. A new DART (Direct Analysis in Real Time) instrument is now being used to research new protocols for the ID of endangered/threatened species of wood illegally used in the production of paneling and musical instruments, as well as a wide range of abused and/or threatening chemicals.

In the field, where the actual slaughter is taking place, wildlife investigators are using specially designed evidence-collection kits to obtain crucial bits of soil, blood and tissue — along with boot prints, tire tracks, expended bullets and cartridge cases — at elephant, rhino and tiger kill sites for the purpose of linking those evidence items to the killers, smugglers and possessors of seized tusks, horns and pelts on some future day.

Even in the ocean, where depth, cold, darkness, rapid currents, corrosive salt water, limited dive times and curious predators make the application of land-based CSI techniques to damaged coral reefs an interesting challenge indeed. We've developed an illustrated coral reef CSI manual, which we use to train coral reef biologists and investigators in what are still very basic, but gradually improving, underwater crime scene investigation techniques.

All of the above happening in a determined effort to halt — or, at least, to hinder — the on-going destruction of the increasingly valuable and endangered plants and animals that need our help to survive in our dangerous world.

Yes, there is a battle outside, but it is one that wildlife rangers, investigators, inspectors and forensic scientists intend to win.

In wildlife law enforcement, as in police work, there really is no other acceptable option.

WILDLIFE DNA

Forensic identification methods have a come a long way for human victims. Wildlife species, on the other hand, haven't been so lucky.

But researchers at Newfoundland's Memorial University are broadening the scope of wildlife DNA analysis and giving police a way to identify individual victims of wildlife crime.

After years of collecting wildlife DNA data, Dr. Steven Carr and Dr. Dawn Marshall have sequenced the genomes of several wildlife species.

Using this information, they can now compare and possibly match DNA samples that are suspected to have come from the same animal through "Next Generation" sequencing.

"If you found a moose that was poached on the highway and you found somebody with meat in their freezer, you could make a positive identification between the meat and the moose," Carr says.

Before "NextGen," wildlife forensic identification was limited to only identifying the species of the animal. Now, with their business Terra Nova Genomics Inc. (TNG), Carr and Marshall can narrow it down to the specific animal.

It's good news for investigators because it makes the process so much faster.

"If it were done properly, it would be a very rapid test," Carr says. "It would be the sort of thing you could turn around in a few days if you needed to."

This is not the first time the duo has reached out to the law enforcement community. Carr and Marshall have been working in the field of wildlife biology through TNG Inc. and have assisted the RCMP on several wildlife forensic DNA cases. **— Mallory Procunier**

GUARDING THE FARM

NEW TESTS DETECT HIGH-THREAT ANIMAL VIRUSES

By Shane Renwick, director, Animal Health Science Foresight, Canadian Food Inspection Agency

Canada is currently free of major contagious diseases of animals that fall under the Canadian Food Inspection Agency's (CFIA) mandate including foot-and-mouth disease (FMD) and serious strains of avian influenza (AI). However, there's a critical need for the animal health community to remain vigilant since outbreaks of these and other viral diseases of animals can cause debiliating sickness in livestock, halt trade in animals and animal products, and threaten the food supply and public health.

We need to look back only a few years to remind us why we must remain on guard. The outbreak of FMD in Britain in 2001 caused $16 billion in damage to agriculture and tourism. Millions of animals were slaughtered to prevent the spread of the virus; the food supply, trade and tourism were disrupted; and severe psychological trauma and loss of livelihood affected thousands of people.

Unlike FMD, other viruses such as AI affect mainly birds but have the potential to infect humans. The 2004 outbreak of AI in the Fraser Valley of British Columbia, originating from wild birds, caused $300 million in damage to the poultry industry before it was finally eradicated, fortunately without serious human illness or loss of human life.

In today's highly interconnected world, disease-causing agents could enter Canada in a number of ways. Outbreaks might result from natural incursions such as through wildlife or insect movement, or could occur inadvertently if the virus is carried on contaminated imported products or on international travellers. More troubling is that the potential does exist for bio-terrorists to use animal disease agents deliberately with the intent to damage animals, people, the economy and the environment in one or many parts of Canada.

RAPID VIRUS DETECTION

Since 2002, the Centre for Security Science (CSS) under the Chemical, Biological, Radiological, Nuclear and Explosive Research and Technology Initiative (CRTI) has invested in a number of projects to enhance Canada's ability to detect and respond to high-threat animal viruses soon after they appear to minimize negative consequences. Between 2002 and 2006, CRTI funded a project to develop new rapid diagnostic tests and support training for veterinary first responders.

The project successfully produced new methods to rapidly detect viruses in animals suspected of being infected. In addition, scientists developed other approaches to improve a laboratory's ability to detect antibodies to these viruses in blood. The project produced a number of new tests including one that was employed in a real-life outbreak of avian influenza in British Columbia in 2004. Some of these same tests have been used since 2006 to look for the highly pathogenic strain of avian influenza H5N1 virus in wild birds. To date, this serious strain of influenza has appeared in Europe and Asia but has not been found in Canada.

In a separate project beginning in 2005, the CFIA — with CRTI/CSS support — helped develop the Canadian Animal Health Surveillance Network consisting of provincial and university veterinary diagnostic laboratories across Canada. The network, led by the National Centre for Foreign Animal Disease in Winnipeg, deployed new tests to laboratories across the country allowing state-of-the-art testing methods and expertise to be close to potential outbreaks, facilitating rapid detection and response.

PREPARING FOR A BIOTERRORIST ATTACK

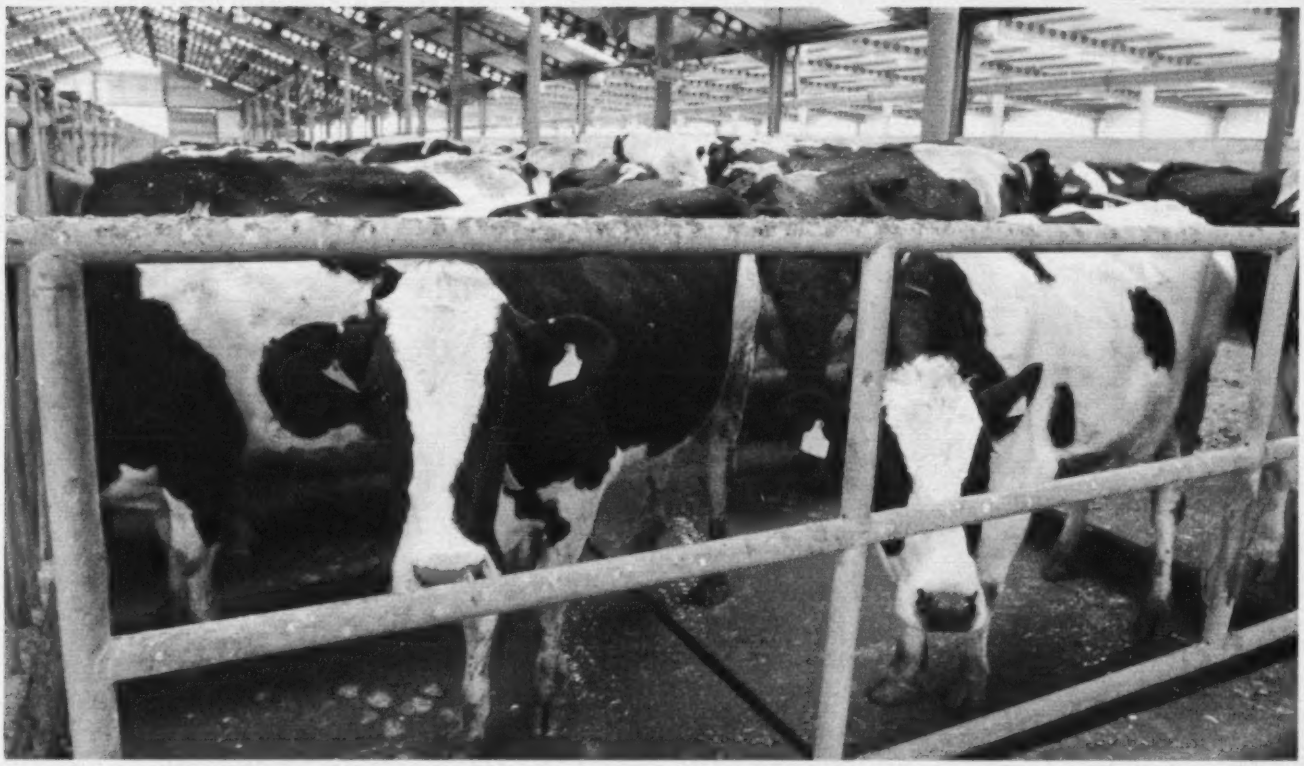
This project contributed to a successful field exercise sponsored by CSS/CRTI simulating a bio-terrorist attack that was held in October 2007 in British Columbia. A team of federal science and technology experts, as well as members of operational and first responder communities, participated in the largest and most realistic multi-jurisdictional bioterrorist field exercise ever held in Canada. This provided a valuable learning experience for developing a more efficient and co-ordinated response to an emergency situation involving a disease agent. In the case of a bio-terrorist attack involving an animal disease, the CFIA and the RCMP in particular would need to collaborate closely to support an effective response.

Since 2007, the CFIA has continued to work with its partners in conducting regular animal disease emergency response exercises. More recently, CRTI/CSS has sponsored a three-year, multi-partner project to explore future challenges from animal disease and define a 15-year roadmap for an emergency management system that can better anticipate and prevent diseases.

In the case of animal disease, prevention is always better than a cure. The CFIA strongly supports the work of the RCMP and others in the security community in Canada to prevent bio-terrorist activities involving animal disease agents.

CFIA veterinarians and inspectors respond to an avian influenza outbreak at commercial poultry operation in Rockwood, Manitoba, in 2010.

Canadian Food Inspection Agency



AGROTERRORISM

THREATS TO AMERICA'S ECONOMY AND FOOD SUPPLY

By Dean Olson, M.A.

The United States enjoys a safe, plentiful and inexpensive food supply. Americans spend only 11 per cent of their income on food compared with the global average of 20 to 30 per cent. The nation's agricultural abundance helps drive its economic prosperity. As many as one in six jobs are linked to agriculture, a trillion-dollar industry. Agriculture-related products comprise nearly 10 per cent of all U.S. exports, amounting to nearly $68 billion in 2006.

Terrorists consider America's agriculture and food production tempting targets. They have noticed that its food supply is among the most vulnerable and least protected of all potential targets of attack. When American and allied forces overran al Qaeda sanctuaries in the caves of eastern Afghanistan in 2002, among the thousands of documents they discovered were U.S. agricultural documents and al Qaeda training manuals targeting agriculture.

A subset of bioterrorism, agroterrorism is defined as "the deliberate introduction of an animal or plant disease for the purpose of generating fear, causing economic losses or undermining social stability." It represents a tactic to attack the economic stability of the United States. Killing livestock and plants or contaminating food can help terrorists cause economic crises in the agriculture and food industries. Secondary goals include social unrest and loss of confidence in government.

SERIOUS CONCERN

The agroterrorism threat emanates from four categories of perpetrators. The foremost threat is posed by transnational groups, like al Qaeda — widely believed to present the most probable threat of inflicting economic harm on the United States.

The second group is comprised of economic opportunists tempted to manipulate markets. They understand that a foot-and-mouth disease (FMD) outbreak, for example, would have a dramatic impact on markets. By introducing the virus, they could exploit the markets for personal economic gain.

The third category includes domestic terrorists who may view the introduction of FMD as a blow against the federal government. As an outlier of this category, the unbalanced individual or disgruntled employee may perpetrate an attack for a variety of idiosyncratic or narcissistic motivations.

Finally, militant animal rights or environmental activists pose a threat because they consider immoral the use of animals for food.

THREAT ENVIRONMENT

Terrorists know that a successful agroterrorism incident threatens America's economic welfare and its standing as a leading exporter of agricultural products to the world. A significant disruption in agricultural exports caused by such an attack would have ripple effects in the United States' and global economies. This economic disruption would occur on three levels.

The first involves direct losses due to

containment measures, such as stop-movement orders (SMOs) or quarantines of suspected stock. Additional costs would arise from the culling and destruction of disease-ridden livestock.

Second, indirect multiplier effects, such as compensation to farmers for destruction of agricultural commodities and losses suffered by directly and indirectly related industries, would arise.

And, third, international costs would result from protective trade embargoes. Less measurable consequences would include the undermining of confidence in and support of government, creation of social panic, and threat to public health on the national and global levels.

Given its ease of execution and low cost to high benefit ratio, agroterrorism fits the evolving strategy of al Qaeda that focuses on inexpensive but highly disruptive attacks in lieu of monumental ones. Agroterrorism could exacerbate the social upheaval caused by random bombings. The ability to employ cheap and unsophisticated means, combined with the added payoff to potentially overwhelm its counterterrorism resources, makes livestock- and food-related attacks increasingly attractive.

FOOT-AND-MOUTH DISEASE

Attacks directed against the cattle, swine or poultry industries or via the food chain pose the most serious danger for latent, ongoing effects and general socioeconomic and political disruption. Experts agree that FMD presents the most ominous threat. Twenty times more infectious than smallpox, FMD causes painful blisters on the tongues, hooves and teats of cloven-hoofed animals, including cattle, hogs, sheep, goats and deer, rendering them unable to walk, give milk, eat or drink.

Although people generally cannot contract the disease, they can carry the virus in their lungs for up to 48 hours and transmit it to animals. The animal-to-animal airborne transmission range is 80 kilometres. FMD can survive in straw or clothing for one month and spread up to 100 kilometers via the wind.

Because herds exist as highly crowded populations bred and reared in extremely close proximity to one another, FMD could easily spread beyond the locus of a specific outbreak before health officials become aware of a problem. An FMD outbreak could spread to as many as 25 states in 5 days simply through the regulated movement of animals from farm to market.

From a tactical perspective, an FMD attack holds appeal for several reasons.

First, unlike biological warfare directed against humans, no issue of weaponization exists. In an FMD attack, the animals themselves serve as the primary medium for pathogenic transmission, and countries as close as those in South America offer a ready source of the virus.

Second, FMD doesn't present a risk of accidental human infection. There's no need for elaborate personal protective equipment or an advanced understanding of animal disease science. In a biowarfare attack targeting people, the deadly pathogen poses a threat to the perpetrators and their intended victims. Preparing the pathogen so that terrorists can handle it safely yet disseminate it effectively to intended victims can prove difficult.

Third, terrorists could introduce and subsequently disperse the virus throughout the American food production system through multiple carriers, including animals carrying and introducing it into susceptible herds; animals exposed to contraband materials, such as contaminated food, hay, feedstuffs, hides or biologics; people wearing clothing or using equipment, including tractors and trucks, to transmit the virus to uninfected animals; and contaminated facilities, such as feed yards, sale barns and trucks that commonly hold or transport susceptible animals.

The same factors that yield inexpensive and plentiful food by promoting maximum production efficiency also make American agricultural systems inherently vulnerable. The highly concentrated and intensive nature of livestock production encourages the rapid spread of contagious pathogens. Most dairies house at least 1,500 cows, with the largest facilities containing 10,000. Animals often are born on breeding farms and then transported to another state for slaughtering and processing. Otherwise isolated and widely dispersed farms often share equipment, vehicles and veterinary instruments. Feedlots and auctions routinely intermingle animals from a wide geographic area.

The introduction of FMD would require the mass slaughter and disposal of infected animals. An outbreak could halt the domestic and international sale of meat and meat products for years. In this regard, in 2001, FMD in the United Kingdom affected 9,000 farms and required the destruction of more than 4,000,000 animals. Researchers believe that a similar outbreak in the United States would cost taxpayers up to $60 billion. An FMD attack could result in massive herd culling, the need to destroy processed goods, and extensive decontamination efforts of production and livestock-containment facilities.

FOOD PRODUCTION AND DISTRIBUTION

If terrorists strive for human deaths, the food production and distribution chain offers a low-tech but effective mechanism for disseminating toxins and bacteria, such as botulism, E. coli and salmonella. Developments in the farm-to-table continuum greatly have increased the number of entry points for these agents. Many food processing and packing plants employ large, unscreened seasonal workforces. They commonly operate uneven standards of internal quality and inadequate biosurveillance control to detect adulteration. These vulnerabilities, combined with the lack of security at many processing and packing plants, contribute to the ease of perpetrating a food-borne attack.

Beyond the economic and political impact, low-tech bioterrorist assaults against the food chain have the potential to create social panic as people lose confidence in the safety of the food supply. A large-scale attack potentially could undermine the public's confidence in its government. Because most processed food travels to distribution centers within a matter of hours, a single case of chemical or biological adulteration could have significant latent ongoing effects, particularly if the source of the contamination is not immediately apparent and there are acute ailments or deaths. Supermarkets in major American cities stock only a seven-day supply of food; therefore, any significant and continuing disruption in supply quickly will lead to severe shortages.

Experts believe that fruit- and vegetable-packing plants are among the most vulnerable venues for food-borne attacks. Many represent small-scale manufacturers that specialize in ready-to-eat meats or aggregated foodstuffs. They do not practise uniform biosecurity methods, and they do not use heat, an effective front-end barrier against pathogens, in food processing. Also, because they deal in already-prepared produce that does not require cooking — a good back-

end defence against microbial introduction — they provide a viable portal to introduce pathogens.

LAW ENFORCEMENT PREPAREDNESS

Farms, ranches and feedlots in America are dispersed, open and generally unprotected. The majority of state and local law enforcement agencies face financial and strategic challenges when responding to agroterrorism, yet the laws of many states treat agroterrorism as a crime investigation, giving local law enforcement agencies primary responsibility.

An outbreak of FMD would exhaust law enforcement resources quickly. After recognition of the disease by state agriculture authorities, subsequent steps in the emergency response involve containment and eradication, often involving multiple herds and a large quarantine area that may encompass multiple counties. State agriculture authorities working with the U.S. Department of Agriculture's Animal and Plant Health Inspection Service have responsibility and authority for animal disease. Specially trained animal health officials make decisions on disease control, such as livestock quarantine and the timing and method of livestock depopulation — culling, destroying and disposing of diseased animals from infected herds by burning or burial.

Following strict biosecurity measures can prevent the spread of disease. Local and state law enforcement would play a pivotal role in this effort by adhering to three primary responsibilities.

First, police officials would enforce quarantine orders given by state agriculture authorities. This involves isolating and containing infected stock to prevent the spread of disease. A quarantine area would comprise a 10-kilometre radius, approximately 180 square kilometres, surrounding the point of origin; numerous roadblocks would prevent vehicles, equipment, or persons from entering or leaving without detailed decontamination measures and authorization. Inside the quarantine area, officials would establish an "exposed zone" in which all cloven-hoofed animals would be destroyed. For effectiveness, quarantine of infected premises and SMOs would have to remain in effect for a minimum of 30 days.

The second responsibility occurs in conjunction with quarantine. Officers would enforce SMOs issued by the state governor

to prevent the spread of the disease. Initial biosecurity efforts could require placement of all animals under an SMO. Law enforcement may be empowered to restrict human and animal movement in and out of the quarantine zone.

This authority would include all animals in transit within a wide geographic area until the investigation clarified the extent of the infection and determined which animals can move safely. Although FMD affects only cloven-hoofed animals, humans, horses, and other animals may carry the virus.

Enforcing an SMO would require care and shelter for animals in transit that must be temporarily unloaded and housed at local sites providing feed and water. During the SMO, law enforcement would interview drivers to determine points of origin and destinations of animals. Research indicates that officers would stop and evaluate an average of nearly 50 vehicles per hour in the first day of an SMO.

Third, the criminal investigation of the outbreak further would tax already strained law enforcement resources. The investigation would focus on identifying the source of the virus and the mechanism used to infect susceptible animals. The danger of additional infections by the perpetrators would make the criminal investigation time sensitive.

Many law enforcement agencies lack the sufficient resources and procedures to simultaneously cope with quarantines, SMOs and criminal investigations while also staffing widely dispersed checkpoints around the clock for the duration of the emergency. When combined with the need also to deliver routine law enforcement services, most agencies would struggle to meet these demands, especially during the protracted nature of an FMD outbreak.

CONCLUSION

Agriculture may not represent terrorists' first choice of targets because it lacks the shock factor of more traditional attacks; however, it comprises the largest single sector in the U.S. economy, making agroterrorism a viable primary aspiration. Such terrorist groups as al Qaeda have made economic and trade disruption key goals. They believe that by imposing economic hardship on America, its citizens will tire of the struggle and force their elected leaders to withdraw from commitments abroad.

Every level of the food chain, including farms, feedlots, chemical storage facilities, meatpacking plants, and distribution operations, remains vulnerable to agroterrorism. Because terrorists rely on a lack of preparedness, law enforcement agencies should develop a plan to prevent agroterrorism and minimize the results of an attack.

Officers must investigate from an agroterrorism perspective thefts of livestock; a criminal organization may steal animals with the intent of infecting them and placing them back into the population. Thefts of vaccines, medicines and livestock-related equipment should be of concern and carefully investigated. It's vital that law enforcement officials forward reports of such incidents to their states' intelligence-fusion centers, threat-integration centers or law enforcement intelligence units or networks.

This article excerpt is reprinted courtesy of the FBI Law Enforcement Bulletin.

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Maritime Police Unit

Police observers on a Dutch Coast Guard aircraft captured this image of a vessel illegally dumping palm oil at sea in 2007.

SHIP POLLUTION IN THE NORTH SEA

DUTCH POLICE TACKLE ILLEGAL DUMPING

By Ron Faber, National Police Agency of the Netherlands, Maritime Police Unit

Bordered on its westerns and northern sides by the North Sea, the Netherlands has governance over a large section of one the busiest seas in the world. There are about 400,000 ship movements annually on that part of the North Sea; 44,000 of these ships enter or leave from a Dutch harbour.

The Netherlands' sovereignty over the North Sea includes an area of more than 57,000 square kilometres, about one and a half times the surface area of the country's land mass. With many competing uses and demands on the sea, oil and gas production, fishing routes, military movements, tourism attractions and ecologically sensitive areas, to name a few — the Netherlands must be aware of these increasing pressures and intervene when necessary.

DEDICATED MARITIME UNIT

The Maritime Police Unit of the Netherlands Police Agency (NPA) is responsible for law enforcement and criminal investigations on this section of the North Sea. The unit works closely with the NPA stationed in the Dutch ports, who are responsible for enforcement in the harbours and on inland waters, and the Rotterdam Seaport Police, who are active in the port of Rotterdam.

The Maritime Police Unit works alongside the Dutch Coast Guard, located in Den Helder at the Netherlands Coast Guard Center. Here, an operational enforcement front office is manned 24/7 by maritime police, customs and border police officers. A Maritime Information Center also operates at the Coast Guard Center.

For police activities at sea, the coast guard vessels are manned with police officers from different police agencies. From the air, the coast guard's aircraft include police observers from the marine unit, customs and border police as well as environmental officers, who keep watch over shipping activities.

COMBATING POLLUTION

While the Maritime Police Unit investigates all maritime criminal offences, including ships that don't comply with traffic regulations, ships that are not properly manned by qualified officers, reports of missing persons at sea, transport of narcotics, and sailing under the influence of alcohol, one the maritime unit's key tasks is to combat ship pollution in the North Sea.

Between 300 and 400 oil slicks turn up each year on the Dutch part of the North Sea. These slicks are mainly observed in the general shipping lanes and the sea area near Rotterdam and Amsterdam. Oil, gasoline and by-products from the biological breakdown of petroleum is extremely polluting, and can cause serious harm to fish and wildlife. Even in very small concentrations, oil can kill fish.

The unit targets illegal pollution from ships in the Netherlands on both a proactive and reactive basis.

The proactive approach to combating illegal discharges involves investigating ships that are freely berthing at a Dutch port and where an environmental risk analysis shows an investigation is warranted.

These investigations are focused mainly on sludge and bilge water processing in a

ship's engine room, which must comply with Marpol Annex I regulations. Marpol is the International Convention for the Prevention of Pollution From Ships. It contains six annexes concerned with preventing different forms of marine pollution from ships, including oil (Annex I), noxious liquid substances carried in bulk (Annex II), harmful substances carried in packaged form (Annex III), sewage (Annex IV), garbage (Annex V) and air pollution (Annex VI).

Each year, Dutch police investigate 15 to 20 cases of illegal discharges from bilges or from washings into the North Sea. For instance, the regulations do not allow offshore supply vessels to pump out bilges while they are connected to offshore installations. The marine police unit also finds oil in discharge lines that are used for pumping bilge water into the sea.

Following the Annex I rules, there should be no visible oil in the discharge lines. The marine police unit also sees 25 to 30 cases each year that involve falsifying oil record books, which are detected by proactive investigations in ports.

During proactive Annex I investigations for illegal oil discharges, ship certificates like the safety management certificate, the international oil pollution prevention (IOPP) certificate and supplement (containing technical information about the ship's equipment) and the oil record book, are all subject to inspection. Police will check and gather information from the IOPP supplement and the oil record book by visiting the ship's engine room. In the engine room, police will also inspect the oil-water separator, 15 parts per million monitoring equipment and 15 parts per million clean water discharge line.

All tanks listed in the IOPP supplement are compared to information in the oil record book using tanking soundings. This way, illegal discharges will be detected or prevented. In cases where there are discrepancies, enforcement can be taken against false oil record books.

DETECTING ILLEGAL DUMPING

Reactive investigations of suspect ships are carried out when spills are detected at sea. Identifying the illegal discharge of harmful substances from ships is done in several ways.

Satellites: Satellites circling around the Earth periodically take pictures of the North Sea to detect probable violations. The information is sent to the Dutch Coast Guard. This information is analyzed and, using Automatic Identification System data, back tracks (creating a visual sailing history) will be made from a ship's movements, which may show a link to violations. The date and time of the satellite passages are well known to the Dutch Coast Guard, which times its own flights above the North Sea during satellite passage time to identify the ships that are illegally discharging.

Coast Guard aircraft: On behalf of the Bonn Agreement, member states periodically fly over the North Sea to search for illegal discharges. This task is carried out by coast guard planes with observers on board to detect discharges visually or using remote sensing equipment, side-looking airborne radar (SLAR) and infrared video equipment (FLIR).

Non-police reports: Reports of illegal discharges are also made by civil aircrafts, ships and mining installations.

Combating illegal discharges from ships in the Netherlands is a joint effort. Police partners include officials from the Ministry of Infrastructure, Ministry of Environment, Port State Control, Flag State Control and officials from the State Supervision of Mines.

If illegal discharges are suspected, Maritime Police begin an investigation and the suspected ships are be stopped at the next port of call. A request is made by the Dutch Coast Guard for officers from the Ministry of Infrastructure and Transport to board the ship and carry out a technical environmental inspection. The inspection provides additional information for the criminal investigation.

One recent investigation determined that tank washings of high-viscosity substances were pumped into the sea when they should have been given to a port reception facility. This was an example of illegally discharging Marpol Annex II washings within 12 nautical miles of the Dutch coast.

In this case, the company responsible settled out of court. For illegal discharges, fines of up to € 30,000 are levied to the companies responsible, while fines of up to € 3,000 are imposed for falsifying oil record books.

CLEAN SEAS

Representatives of the Maritime Police Unit and the Rotterdam Seaport Police participate in the Interpol Environmental Crime Working Group Cleans Seas Project, the aim of which is to conserve marine environments. The group created a manual on illegal oil discharges from vessels, which has been made available to Interpol member states to be used as a tool to combat illegal discharges from ships.

The working group is also finalizing a manual on illegal garbage discharges from ships. In addition, information on pollution offenders is made available in Interpol's prosecutors database (concluded cases) and in its worst offenders database for risk analysis in the event of a police investigation.

WHALE WATCHING

For the past two years, orcas off the southern shores of Vancouver Island have had an extra pair of eyes looking out for them.

As part of the South Island Integrated Marine Unit (SIIMU), the RCMP has been working with the Department of Fisheries and Oceans (DFO) to make sure boaters off the coast of Victoria, B.C. don't run too close to killer whales.

Cpl. Lawrence Jacobs, the officer in charge of the unit as well as the only RCMP representative, will hop on a DFO vessel to check if boaters have the proper safety equipment. At the same time, a DFO officer can board an RCMP vessel to look out for boaters who are harassing whales.

Even if a DFO officer isn't on board and Jacobs sees someone who is coming too close to a whale, he can take a photo and send it to a DFO officer, who can later head out and charge that person.

"We generally have the same powers as DFO, so why not work together?" Jacobs says.

The unit is an extension of the multi-agency South Island Marine Enforcement Group, and can bring together the Department of Fisheries and Oceans, Parks Canada and Canada Border Services Agency, and other RCMP teams to share duties and intelligence.

— Mallory Procunier

JUST THE FACTS

As the world population ages, victimization of the elderly is becoming more common. Whether preyed upon for their assets, physically or verbally abused, seniors across the world are vulnerable in the hands of their caretakers who are most commonly their close family members. As the following facts show, what was once thought to be a domestic problem is universal.

ELDER ABUSE

- Neglect of seniors can include failure to provide any or all of the following: water or food, shelter, clothing, medication or medical attention and assistance with basic necessities.
- According to Seniors Canada, abusers are often trusted by the victim, such as family members, friends or caretakers. The abusers are also typically dependent upon the victim for money, food or shelter.
- A report done for the World Health Organizations says elder abuse can reduce life expectancy, can lead to depression, and in some cases, seniors turn to harmful alcohol use as a coping strategy.
- According to Dr. Mala Kapur Shankardass, the chair of the International Network for Prevention of Elder Abuse in India and Asia, given the existing structures of gender discrimination, women in India run a greater risk than men of becoming victims of financial, emotional and physical elder abuse.
- Statistics Canada projects that between 2014 and 2021, the number of seniors will outnumber children aged 14 and under for the first time, reaching more than 10 million by 2036.
- In the 2008 budget, the Canadian government promised $13.3 million over three years to help raise awareness about the issue of elder abuse and options for affected seniors.
- According to the American National Center on Elder Abuse, in 90 per cent of reported elder abuse cases, the abuser is a family member.
- Over the past few years, the Canadian Anti-Fraud Centre has taken notice of an increasingly common scam that preys on the elderly where a con artist pretends to be their grandchild, either over the phone or through email, says they are in trouble and asks for money immediately.
- While there is a body of 'soft' law guiding the treatment of older women and men, including the UN Principles for Older Persons and the Madrid International Plan of Action on Ageing, there are no legally binding international obligations for the treatment of older adults.
- An inquiry conducted by the UK Equality and Human Rights Commission found that 250,000 vulnerable pensioners in England were receiving "poor or very poor" standards of care at home, often receiving just 15 minutes a day with their caretakers.
- In 2010, the Irish Health Service Executive reported a 10 per cent increase of reported alleged elder abuse cases from the year before.
- A survey done by the humanitarian organization, HelpAge India, found that of the more than 90 million elderly persons in India, more than half felt they are easy targets for crime. And 98 per cent of the victims did not file any official complaints.
- Peter Cheng, the director of the Indochina Sino-American Community Center in New York, has found that victims of elder abuse at the hands of their children or families are hesitant to put those relationships at risk. Of those who do seek help, less than 1 in 10 are willing to proceed with further actions.
- Japan is currently the only Asian country that provides social insurance to homemakers thus ensuring financial security in later life to women who have no occupational history — a group particularly vulnerable to abuse.
- Many African countries face an increasing issue with the social isolation of elderly people. With a lack of access to social welfare, many are forced to go without.
- A cross-sectional community survey designed to investigate the prevalence of disability and the utilization of health services among elderly Zimbabweans, found that this older population had inadequate access to health services and used medication infrequently.
- Started in Canada in 2006 and now observed across the globe, June 15 marks World Elder Abuse Awareness Day — a day to recognize the mistreatment of older adults and the need for appropriate action and prevention efforts.

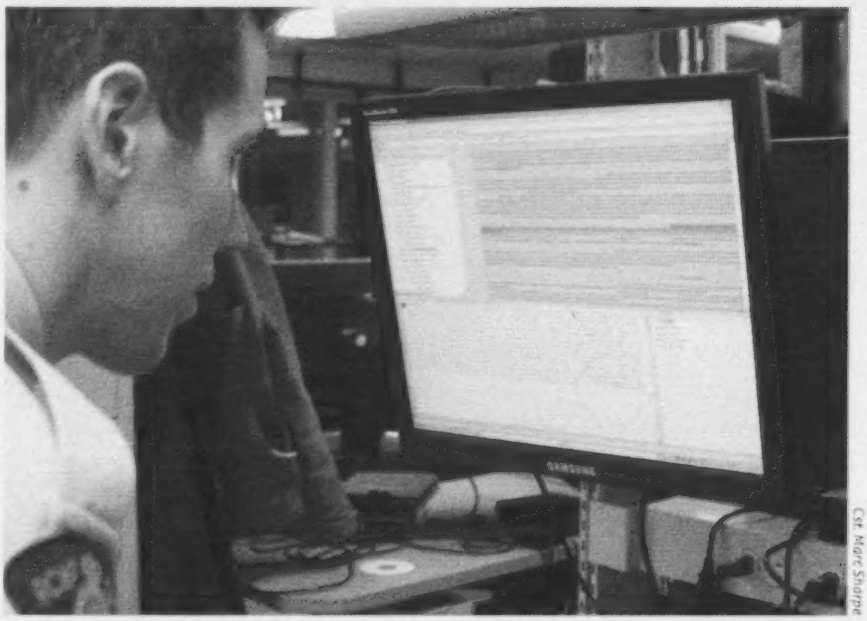
FORENSICS IN A DIGITAL AGE

TOOL HELPS POLICE TRACK TECH TRAILS

By Mallory Procunier

In today's digital world, we sometimes forget that the things we type online are never truly erased.

And even though this information is buried deep inside a computer, the Internet Evidence Finder tool (IEF) can likely find it and help law enforcement turn Internet communication into evidence.



Cst. Marc Sharpe

Computer forensic analysts worldwide use the Internet Evidence Finder tool to find Internet-related evidence.

COMBING COMPUTERS

IEF is a digital forensics software program that can search hard drives, random access memory (RAM) or other types of files for Internet-related evidence on computers.

All a technological crime investigator needs to do is make a digital image of a person's hard drive and run it through IEF to produce thousands of pieces of potential evidence.

Facebook chats, e-mails and web browsing histories are just a few of the types of online communication that IEF can find. Those who are foolish enough to plan homicides, child exploitation or other offences online can be easily exposed with the click of a mouse.

"A lot of the times, the information we recover is not known to the user to have existed on his or her computer," says Jad Saliba, the former police officer who created IEF. "People think that once they delete a chat log file that it's gone but a lot of times it's recoverable."

Saliba created IEF in 2009 when he was balancing two roles as a Waterloo Regional Police technological crime analyst and an amateur computer programmer. At that time, he realized that there was no simple way to uncover this scope of evidence from a computer, so he tried to create one himself.

"I had a background in programming and IT before I became a police officer, so I kind of brushed the cobwebs out of the way and started doing a lot of home research and figured out that there were ways to recover that type of data," Saliba says.

Since then, the tool has become so popular with law enforcement, businesses and government agencies worldwide that Saliba had quit his job as a police officer to work full time at his Waterloo-based company, JAD-software.

INTERNATIONAL APPEAL

Police forces from North America to Australia are using IEF almost every day because digital footprints are relevant in just about every investigation with today's widespread computer use.

In Canada, Cpl. Lou Hochhold from the Nova Scotia RCMP's Technological Crime unit runs IEF, as well as other digital forensic tools, on every computer forensics case he sees because the evidence that comes off of hard drives can be so invaluable.

Hochhold remembers a fraud investigation where he ran IEF on a suspect's computer and was able to link him to Kijiji and Craigslist ads that he had contacted to sell fake concert tickets.

"With IEF's help, I was able to recover several other e-mail addresses that the suspect used to perpetrate fraud, which the investigators were not aware of," Hochhold says. "IEF was invaluable as it carved out the webmail artifacts."

A THOROUGH SEARCH

IEF is also benefitting military and government organizations like the United States Department of Homeland Security and the European Commission. But Saliba admits that he built IEF with his colleagues in law enforcement in mind.

"I get these e-mails from people all over the world saying that they were able to do things like rescue a child based on some of the chats they found using my software," Saliba says.

"Even one incident like that makes all the work worth it."

Even though IEF is efficient, Hochhold says it's not the only program his unit uses for computer forensics.

"It's one of the main tools when it comes to web and chat history, but it's one of a multitude of tools that we use," Hochhold says. "Sometimes just one doesn't get everything."

Hochhold says he always goes back to the image of the hard drive after he runs IEF to verify the data he recovers and to correlate the evidence.

"Just like there are different ways of conducting an investigation, there are different ways of recovering data," Hochhold says. "IEF has certainly made our lives a lot easier, though."

LATEST RESEARCH IN LAW ENFORCEMENT

The following are excerpts from recent research related to justice and law enforcement and reflect the views and opinions of the authors and not necessarily those of the organizations for which they work. To access the full reports, please visit the website links at the bottom of each summary.

UNDERSTANDING THE COMMUNITY IMPACT OF HATE CRIMES: A CASE STUDY

By Sidikat Fashola

The purpose of this study was to empirically measure the community impact of hate-motivated crimes. This article summarizes some of the findings from this study.

The statistics are drawn from a survey of community members of Kitchener, Ontario, a mid-size urban centre with growing immigrant population, following a violent attack on a Sudanese refugee in 2006.

A survey was conducted with individuals from the area where the incident occurred and with individuals from the victim's ethnic community. A total of 607 adults aged 18 to 60 responded. Of that, 196 were members of the Kitchener African Identity Community (KAIC) and 411 were members of the Kitchener Geographic Community (KGC).

The survey consisted of three components to assess personal impact: questions from the Horowitz "Impact of Event Scale," the perceived impact of the incident on the community (identity or geographic) as a whole, and questions for gathering demographic information about participants.

Over the past five years, 74 per cent of the KAIC sample reported they had experienced discrimination or had been treated unfairly because of a personal attribute compared to 43 per cent of respondents from the KGC.

Most commonly, the KAIC identified race, language or accent, and/or ethnicity or culture as grounds for discrimination. The most commonly identified discrimination for the KGC were gender, age and/or ethnicity or culture.

Respondents were asked about the measures they had taken to protect themselves and their families in reaction to the hate crime incident. The highest proportion from both samples said they avoided certain areas of the city, they avoided going out alone and at night, and they went out less.

Prior to the incident, both communities reported having very little fear for their personal safety or that of their families. Afterwards, 82 per cent of the KAIC respondents reported an increase in fear compared to 31 per cent from the KGC.

Another finding was that the highest proportion of respondents from both groups tended to rely primarily on family and friends for support.

The KAIC were also more likely to report they needed support but did not seek it. When support was sought, both samples most often cited the desire for emotional or moral support.

The KGC respondents also comparatively reported a higher incidence of community-relationships strengthening in the aftermath.

The results also pointed to additional questions. Why do targeted identity communities underutilize existing resources and networks for support? And is there a difference between the impacts hate crimes have on rural communities and urban communities?

TO ACCESS THE FULL REPORT, PLEASE VISIT:
WWW.JUSTICE.GC.CA

VULNERABILITIES TO TRAFFICKING IN PERSONS IN THE PACIFIC ISLANDS

By Jade Lindley and Laura Beacroft

This paper provides an overview of key vulnerabilities in the Pacific Islands region to trafficking of persons and some approaches to addressing them.

The Pacific Islands region is made up of 17 sovereign nations and five non self-governing territories. The range in population, culture and social and political arrangements results in varying exposure to trafficking in persons.

Some nations have enacted anti-trafficking legislation. But many others rely on often inadequate existing criminal law provisions where trafficking is not recognized as a specific crime.

Based on data collected over a six-year period, 10 Pacific Island nations reported that they had reason to believe people were trafficked into their country. The Pacific Immigration Directors' Conference also noted that facilitators of trafficking are often not based in the region and the most publicized cases have involved a transnational element. Another matter raised during consultations in the Pacific was that the islands are being used as temporary transit points. This finding was unsurprising since the region has been used as a transit point for a range of other organized and transnational criminal activities.

Such crimes can involve trafficking for otherwise legal purposes, such as labour in legal industries. Alternatively, it can be used to facilitate other illegal activities including organized crime, such as gambling and prostitution, which have been found to be present in the region.

Given these vulnerabilities, strengthening border controls and regulation of people movements into and out of Pacific Island nations and the wider region may be a critical part of prevention.

Working collaboratively, authorities have focused on increasing regulation of maritime activities, visa-free arrangements and the issue and use of immigration documents.

A challenge that has been commonly noted is that for cultural reasons, the Pacific Islands region has a history of labour mobility, frequently without adequate documentation. Culturally, the island cultures often have patriarchal social systems that can increase the vulnerability of women and girls to being trafficked.

Growth rates and natural disasters have also increased pressure to emigrate. On the other hand, movement into the region is also increasing due to substantial maritime activity, agricultural industries and tourism involving high levels of visa-free entry.

There is also a high level of corruption in many of the Pacific islands. A lack of transparency interferes with the government's ability to enforce and protect against this crime.

While there are indications of good practice and successful initiatives in place, one challenge will be to build them up to a region-

Jail cells in a city facility in the southern United States.

wide scale in order to avoid simply displacing trafficking in persons.

Further, building the capacities of communities and key non-government sectors to take a stronger role in the prevention and detection of trafficking should be given greater emphasis.

TO ACCESS THE FULL REPORT, PLEASE VISIT: WWW.AIC.GOV.AU

BEYOND THE PRISON BUBBLE

By Joan Petersilia

Proportionally, the United States incarcerate five times more people than Britain, nine times more than Germany and 12 times more than Japan.

The article looks at ways of helping ex-offenders steer away from crime and thereby reducing prison populations.

For the first time in nearly 40 years, the population of the nation's state prisons dropped. Although slight in percentage terms, the author proposes this may be the beginning of the end of America's long commitment to what some critics call mass incarceration.

This approach has become costly. The states now spend an estimated $50 billion on corrections annually, outlaying the budget increases over the last 20 years for nearly all other essential government services.

Today's offenders are different from those of the past. They are still overwhelmingly male (though the female proportion of the population has climbed to nine per cent), African American or Hispanic, and unskilled.

But with long criminal records, substance abuse, unemployment, homelessness and physical and mental disabilities stacked on their records, they are leaving prison at a greater disadvantage than their predecessors.

Yet fewer participate in prison rehabilitation and work programs than a decade ago. And Congress and state legislatures have passed dozens of laws closing off many job opportunities to ex-offenders and restricting their access to welfare benefits and housing subsidies.

The U.S. Bureau of Justice Statistics reports that two-thirds of released prisoners are rearrested for at least one serious new crime, and more than half are re-incarcerated within three years of their release.

Their absences weaken the family and social networks they need when they come home and hurts those left behind. It is no accident that the sons and brothers of men who go to prison are more likely to follow the same path. These trends help cause crime rather than prevent it.

We need to pursue alternatives to prison and new ways to ease inmates' reentry into civilian life.

Researchers have found that targeted rehabilitation helps reduce recidivism. The most popular current approach is called the risk-need-responsivity (RNR) model, which uses risk assessment tools to size up each person and match them to the right program.

Community partnerships also hold great promise. An excellent example is the Boston Reentry Initiative (BRI), a city interagency program that brings together law enforcement, social service agencies, and religious institutions to start working with inmates while they are still incarcerated.

There is scientific evidence that prison and parole programs can reduce recidivism. One of the surest ways we know to keep crime down is to prevent those who have committed crimes in the past from doing so again.

However, that is not to say that criminality is a problem that can always be solved. Rehabilitation programs are not for every prisoner and we should not waste money on those who lack motivation.

But it would be foolish not to help those who wish to change. Effective rehabilitation and reentry programs that help offenders go home to stay are good for everyone.

TO ACCESS THE FULL REPORT, PLEASE VISIT: WWW.NIJ.GOV

PROFESSIONALISM IN POLICING

RESEARCH PROJECT EXPLORES FACTORS AFFECTING POLICE OFFICER INTEGRITY

By Dr. Stephen Maguire, Ph.D., Acting director, Centre on Values and Ethics, Carleton University and Dr. Lorraine Dyke, Ph.D., Director, Centre for Research & Education on Women and Work, Eric Sprott School of Business, Carleton University

Police officers are often subject to abuse, malicious complaints, overwork, disappointing court decisions and media coverage that more often focuses on the negative rather than the positive. They're exposed to the sorrow of victims, horrific scenes of carnage and, sometimes, the on-duty death of a colleague. Despite these challenging circumstances the great majority of police officers remain committed to policing and to their agency. Until now, we have known relatively little about what helps maintain a police officer's commitment to high standards of policing.

The Canadian Association of Chiefs of Police Ethics Committee became interested in research that looked at how organizations sustain commitment to organizational standards. In 2009, the Ethics Committee, with funding from the Sheldon Chumir Foundation for Leadership Ethics, launched a major study to explore the factors affecting police professionalism. The study included a literature review, interviews with more than 80 police officers across the country and a survey of over 10,000 sworn officers from 31 police agencies.

The literature review explored the nature of a profession, whether policing is a profession, and what's meant and entailed by police professionalism. A profession, the study concluded, is an occupational group that establishes structures to secure public trust. These structures become necessary the more the public has a stake in the good or service being provided. If the service is indispensable and delivered by practitioners who exercise a great deal of discretionary judgement (health, law, education, safety), the public will demand a high level of quality assurance.

DISCRETION AND PUBLIC TRUST

Policing provides an indispensable public good — safe communities. Police officers have a great deal of discretion. They may choose to fine or give a warning, charge or caution, persuade or coerce. Police use discretionary judgement in almost all of their interactions with the public. Rightly so, then, the public has an important stake in how police use their judgment.

To ensure trustworthiness, police agencies are structured to be publicly accountable. Legislation, organizational policies, training, oversight, risk mitigation, monitoring, performance measurement, measures to ensure unbiased democratic policing, community partnerships and community accountability are designed to secure community trust and co-operation. This structure is commonly referred to as integrity management in policing.

The integrity management model implicitly assumes that discretionary judgement will be sufficiently directed by training, appropriate oversight and feedback. The central problem with this model is that it overlooks the limitations of direction. A police officer won't subscribe to professionalism because he or she is told to; they'll act professionally because they choose to. Professionalism is conduct befitting public trust, which is earned by how police behave when no one is looking over their shoulder. The professionalism model of policing is designed to engage a police officer's pre-existing commitment to serving the public with respect and fairness.

The professionalism model goes further than the integrity model by paying attention to organizational values, styles of supervision and leadership, and the ethical culture of the agency. The professionalism model of policing also recognizes the importance of managing ethics in organizations, making someone accountable for establishing and testing organizational values, developing an ethics governance framework, integrating values into decision making and performance assessments, managing conflict, providing advice, and benchmarking and improving ethical culture.

Policing can also learn from research and development in managing ethics in the private and public sectors, but most notably from the ethics initiatives in the Canadian Armed Forces.

UNDERSTANDING CORE VALUES

In the second stage of the project, interviews were conducted with more than 80 police officers across the country. Questions were asked about their understanding of core police and organizational values, supervisory and leadership practices, support for officer wellbeing, risk mitigation practices, ethics training, and programs and practices that foster integrity.

Interviews revealed that, in general, supervisors and senior management had a better understanding of the meaning of core police values. On the other hand, core values of policing were not always highlighted or defined in organizational values statements. A review of 15 agency websites revealed 31 different organizational values. Only two agencies had well-defined core values. There seems to be little agreement on the core values of Canadian policing, the role that organizational values should play, or even how to define a core value for the purpose of building shared expectations and aspirations. This may explain why front-line officers were often not well aware of the values that guided their judgement and actions.

Interviews with sergeants consistently showed a supportive supervisory style that fosters self-development and accountability to oneself and others. Sergeants reported that supportive supervision was not part of their supervisory training. They also reported that if they got supervisory training, it wasn't until many years after they became supervisors.

Some senior managers had an intuitive understanding of the importance of visible leadership and used a variety of strategies to foster more meaningful communication and consultation. Some senior managers had a very good understanding of what programs and practices fostered a commitment to integrity. They cited strong leadership, rewards for commendable behaviour, knowledge of the history of the agency, recognizing and celebrating accomplishments, ceremonial dress occasions, effective supervision and training, and good working relationships

with the community.

The literature review and interviews provided a framework for the third part of the research project, an online survey that prompted more than 10,000 police officers from the rank of constable to staff sergeant to respond. These ranks were chosen because they have the most interaction with the public. The data indicate that most police officers are very familiar with their police service's values (80 per cent) and really care about the reputation of their agency (88 per cent). Most police officers rate the integrity of their supervisors and colleagues highly (64 and 61 per cent respectively). Most officers would report a colleague engaged in problematic behaviour (66 per cent). And most are highly committed to their organization (63 per cent).

A majority of officers surveyed reported that their supervisors were supportive (59 per cent) and rewards were fair (59 per cent). They felt their agency handled complaints fairly (68 per cent), enjoyed positive relationships with the community (78 per cent) and demonstrated pride by celebrating the organization's history (65 per cent). Ethics training was almost universal (93 per cent) and a majority of officers found it beneficial (51 per cent). Other agency programs such as professional standards and early intervention systems were also positively evaluated — particularly by those best informed about their role (41 and 60 per cent respectively).

These data are positive indicators of professionalism amongst police officers and of organizations committed to encouraging professionalism. The data show that all of the agency programs intended to enhance professionalism have a positive impact on both integrity and commitment. Officers who share the values of their police service and who believe the community respects their agency gave higher integrity and commitment ratings. Integrity and commitment were affected even more strongly by management practices.

The management practices that had the greatest impact on professionalism were supportive supervision, organizational support of employees, ethical leadership and the fairness of procedures. Most police officers felt that their supervisors were supportive of them, but only a minority felt that the organization was supportive of their concerns (25 per cent), that their leaders incorporated ethics into decision-making (14 per cent) or that procedures were applied consistently (9 per cent). The concerns that police officers expressed can be summarized around three key themes.

CONCERNS

First, many police officers felt that their agencies need to do more to support employees. Answers to a number of questions suggested that many police officers do not believe that the organization or its senior managers take an interest in their concerns. Lack of support is related to reduced trust and lower commitment to the organization's success. The questionnaire results suggest that in order to enhance organizational support, police agencies need to communicate their concern for employees' well-being, solicit employees' input on decisions affecting them and provide support for employees' goals.

A second key theme is that the basis for decision making needs to be clarified, and ethical considerations need to be explicit. Some respondents indicated they had concerns about whether decisions were fair and balanced.

Concerns about bias may arise even when decisions are fair if employees do not understand the basis on which decisions are made. Clarifying the basis for decisions can ensure that decisions aren't only fair but are seen to be fair. Explicitly discussing the ethical considerations that underlie their decisions is an important way that managers can demonstrate greater ethical leadership.

Finally, communication is critical: demonstrating support for employees and clarifying the basis for decisions require enhanced two-way communication between managers and employees. Time spent on communication may, in the short term, seem less important than time spent on operational demands, but investments in communications pay significant dividends in terms of professionalism. The report provided 52 recommendations to enhance professionalism. Recommendations centred on executive leadership, supporting supervisors, supporting the front line, risk mitigation, job decisions, ethics training, and supporting research in policing.

Survey results and recommendations may be found at www.cacp.ca/index/news.

RCMP

SOLVING COLD CASES THE MISSISSIPPI WAY

By Carl J. Jensen, Ph.D., Director, Center for Intelligence and Security Studies, University of Mississippi and Whitney Nickels, MCJ, Co-ordinator, Cold Case Unit, Mississippi Bureau of Investigation

Ask most seasoned investigators what they think about television shows like CSI and Cold Case and be prepared for a strong response. The officer on the street knows full well that physical evidence is often lacking at crime scenes and one doesn't generally solve a case years after it has gone cold. Detectives and prosecutors alike bemoan "the CSI effect," a term that has come to reflect unrealistic expectations on the part of the public when it comes to criminal investigations.

The RAND Corporation recently examined the state of cold case investigative practices in the United States. The results were not particularly encouraging. Most American law enforcement agencies do little cold case work; those that do often have severely limited budgets and success rates are low: fewer that one out of 100 cold case investigations result in a conviction.

This begs the question: does cold case work provide a good return on investment or would the police be more productive pursuing other matters?

Some organizations have managed to create initiatives that are both effective and efficient. Consider the Mississippi Cold Case Unit (MCCU), a state-run organization affiliated with the Mississippi Department of Public Safety. The unit was initially established in July 2004 with funding from a federal grant. As a point of reference, Mississippi is one of the poorest states in the U.S. There is little funding available for anything beyond essential policing services. In order to ensure longevity of the unit, its staff realized that the MCCU would have to exist on a shoestring budget.

The original staff consisted of a director and a full-time, non-sworn analyst. Staffing continues to be supplemented by part-time, unpaid interns from the University of Mississippi's Department of Legal Studies and Center for Intelligence and Security Studies. These interns, who serve three- to six-month terms, perform the bulk of the analysis. Current operational costs vary from between US$125,000 to $150,000 per year. The bulk of the budget is taken up in salaries and costs associated with forensic testing.

Despite these limitations, the MCCU's conviction rate — around nine percent — is roughly nine times that of the national U.S. average. What could they be doing right?

MCCU SERVICES

Any law enforcement agency in the state of Mississippi can submit a case to the MCCU. Submitting agencies determine when a case has become "cold;" there is no minimum amount of time that a case must be open before it can be submitted. Cases are analyzed free of charge. An agency initiates the process by making a formal request and by turning over its case file. Because it has no investigative powers of its own, the primary resource the MCCU uses in its analysis is the case file itself.

The principle product that results from MCCU analysis is a "SmartBook" — an organized compilation of everything that exists in the case file supplemented by analysis and recommendations for further investigation. At the conclusion of the analysis, the submitting agency is briefed on the MCCU's results and presented with the SmartBook for whatever action it deems appropriate. The MCCU cannot mandate that any of its recommendations be followed.

The SmartBook is the MCCU's primary innovation. The first step of the process is to organize case files into nine separate sections as follows:

1. Offence reports – initial scene reports
2. Investigator reports – supplemental reports
3. Victim information – biographical information, criminal history, photos, autopsy/ medical reports
4. Suspect information –

biographical information, criminal history, photos, Miranda waiver, statements, etc.
5. Witness statements – handwritten and transcribed statements
6. Evidence – submission forms and result reports
7. Additional case documents related to investigation – subpoenaed information, bank records, phone records, newspaper articles, etc.
8. Additional documents not related – information that has been misfiled or deemed irrelevant to the case
9. Investigative notes – handwritten investigator notes

Everything in the file is placed into one of the nine sections, which are further organized in chronological or alphabetical order.

The organization of the file is an essential first step but the analysis that follows is the critical "value added." Analysts take notes to establish a first impression of events. These notes are later used to formulate an investigative plan. In addition, timelines are constructed, records of interviews are compared with other interviews and physical evidence, and all avenues of possible follow-up investigation are pursued. As part of this analysis, it is not uncommon to uncover the following:

- Discrepancies between witness and suspect statements
- Discrepancies within suspect and witness statements
- Discrepancies between suspect statements and physical evidence and/or timelines
- Pieces of physical evidence that should have been submitted for forensic analysis
- Additional possible suspects and witnesses
- Additional avenues of logical investigation

Once the analysis is complete, the MCCU holds a debriefing session with investigators, representatives from the District Attorney's office and personnel from assisting agencies. The SmartBook is turned over and analysts present their findings. In addition to providing investigative suggestions, the MCCU discusses a possible plan of action. Personnel also suggest forensic tests not considered by the investigators (the MCCU will pay for those tests).

After the debriefing, an agency is free to conduct whatever further investigation it deems appropriate. This means it can follow all or some of the MCCU's suggestions or ignore them entirely. However, the unit does follow up with agencies to determine case disposition. Based on self reports of roughly 100 violent crime cases worked since the unit's inception through 2009, 10 have resulted in indictments, with nine of the defendants subsequently found guilty. In an additional 10 cases, suspect DNA has been recovered based on suggestions to submit additional pieces of evidence.

SUCCESSFUL APPROACH

The MCCU approach also suggests five principles that can be applied successfully in any law enforcement agency:

Principle One: The deep, systematic analysis of case files provides considerable value in investigations. The MCCU's structured analytical approach is specifically designed to unearth "holes" in the original investigation.

By following a prescribed format, analysts are forced to consider other theories of the case. This often results in the identification of new persons of interest, untested physical evidence and investigative leads that should have been followed.

Principle Two: Case files should be treated as resources, not merely repositories. MCCU analysis is totally dependent upon the information in case files. Analysts view files as important correspondents of the case, almost like an investigator would view a prized witness. For many detectives, case files serve primarily as repositories, locations where reports can be stored until they are needed for prosecution. The MCCU methodology takes this concept one step further — it views the case file as a separate resource, an additional witness to be carefully scrutinized, analyzed and evaluated.

Principle Three: Cases often benefit from a "second set of eyes." One of the primary benefits that the MCCU offers is the introduction of a different perspective, or "second set of eyes" into the investigation. Professionals from such entities as the FBI's Behavioral Analysis Unit readily admit that one of the primary benefits of their analysis is in providing a fresh perspective.

Principle Four: The notion that only experienced, sworn investigators can contribute to investigations appears incorrect; the success of the MCCU suggests that analytical personnel may play a significant role in areas that have traditionally been the province of investigators. This may be a bitter pill for some sworn officers to swallow.

Nevertheless, none of the analytical personnel in the MCCU have experience as a sworn officer. This is not to suggest that investigative experience is not important. Rather, MCCU success suggests that an investigation might be optimized if it becomes more of a shared responsibility. Analysts can assist investigators by organizing information and suggesting potential avenues of investigation.

Principle Five: There is no substitute for organization and meticulous attention to detail. To suggest that organization and attention to detail are important for case clearance is to make a case for the obvious. However, the MCCU's nine-section protocol provides a structure that has evolved over time. Unit personnel consider this structure to be essential to productive analysis. Practitioners should consider whether such an organizational model, or some variant, might improve investigative effectiveness and efficiency in their agency.

CONCLUSION

Law enforcement managers today exist in a world of constrained budgets, tight deadlines, and heavy caseloads. Finding any efficiency, especially one that can enhance effectiveness, is essential.

The MCCU model suggests an efficient use of resources: sworn officers engage in those activities unique to their skills and authority while un-sworn analysts, and even volunteers, remain employed in capacities once thought appropriate only for those who carry a badge.

This study is not an attempt to convince the reader that the MCCU model is the only correct way to carry out cold case investigations.

Nevertheless, given its unique structure, minimal resource requirements and preliminary reports of success, the Mississippi model is worthy of consideration.

REGISTERING SUCCESS

CANADIAN POLICE WORKING WITH AUTISM COMMUNITY

By Sigrid Forberg

Police officers can often defuse escalating situations without ever having to apply force or draw their weapons.

But in the case of individuals with autism, a spectrum disorder that inhibits a person's communication skills, talking it out isn't always an option.

What might seem innocuous to most — certain lights, sounds or touch — can set off a negative response in someone with autism. And each person has different triggers and calming mechanisms.

Police in cities like Miramichi, New Brunswick, Ottawa, Ontario and Saint John, New Brunswick are approaching this challenge from a different perspective. Like many Canadian cities, they have created autism registries with personal and physical information on children and youth with autism.

Cst. Todd Chadwick

Miramichi mother Belinda Shaddick answers questions from reporters about her two children on the spectrum at the Miramichi autism registry launch.

MANAGING RISK

When Cst. Todd Chadwick, with the Miramichi Police Force, was invited to attend a meeting with the local autism resource centre, he had only a basic understanding of autism.

As he learned more, he realized that he often encountered those personality traits and issues on the job. And sometimes when police don't realize a person has autism, misunderstandings can escalate.

In 2009, in Newfoundland, an 18 year-old with autism was arrested and put in lock-up overnight when police confused his odd behaviour with intoxication.

Chadwick cites this case as one of the many reasons Miramichi felt a registry was necessary.

"We have a high rate of autism here," says Chadwick. "The chances of these situations leading to an error are 75 per cent higher than normal. So we have to protect the kids as well as ourselves."

The Miramichi registry, which was launched in late 2009, was the first in Canada. It's used for three different situations — when a child wanders from safety, to provide police with information when they encounter someone with autism and for first responders on the scene of an accident — so children can be helped based on their specific needs.

SHARING KNOWLEDGE

Shortly after Miramichi established their registry, S/Sgt. Jamie Dunlop of the Ottawa Police Service's (OPS) youth section says OPS members started noticing the same issue in their community.

Dunlop has a special understanding of the community's needs and concerns because he has a son with autism. He and his group worked together to develop a one-year pilot project, which they launched in April 2010.

Since then it has become a permanent program with 400 families signed up. Basic information accompanied by a photo is stored in the report management system for officers to access when attending calls involving youths with autism.

Dunlop says they've already had some good examples of the registry's success. In one instance, police received a call to a residence where a young man was out of control and wielding a knife.

From the registry officers learned he finds talking about hockey cards calming. Right away they asked him about his cards and were able to calm him quickly to step in and remove the knife.

"The goal isn't to make officers experts in autism," says Dunlop. "They want to help but sometimes feel frustrated or lost when they're unable to make that contact or communicate effectively. So it's a tool to help guide them through understanding."

GROWING NEED

Insp. Glen McCloskey with the Saint John Police Force has been working closely with Autism Speaks Canada and the local university to develop an autism registry for Saint John, which they hope to launch in September. The Saint John police have noticed a marked increase in autism-related situations. Calls in 2000 jumped from seven to more than 50 in 2010.

Like Dunlop, McCloskey has a teenage daughter with autism and so when the chief of police identified the need for a registry, he was an obvious choice to lead the program. He says training and education along with the resources are a necessity.

McCloskey worries that without the understanding of certain traits that go along with autism that police may misinterpret behaviour. He says his daughter likes to smell hair and so if she were to go over to a police officer and grab hold of them to smell their hair, that it might be mistaken for aggressive or violent behaviour.

"A lot of people don't know, even people in my family don't understand the behaviours of my daughter because they're not here on a regular basis," says McCloskey. "This just gives police that much more information to react properly to situations."